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(English edition) (version française disponible à la même adresse)

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Special issue

This special issue of the Home Dialysis Bulletin (crossref registered as Bulletin de la Dialyse à Domicile (BDD)) contains all abstracts submitted to the 2023 EuroPD congress.

The abstracts are available in English and French.

Many of these abstracts reflect work of particular interest to clinicians and nurses and should be developed into a full article. We therefore encourage authors to write a full article and submit it to the BDD at https://www.bdd.rdplf.org. They will be double-blind peer-reviewed and, if accepted, will be published promptly in both languages to ensure the widest possible dissemination.

The BDD supports the Diamond Open Access Action Plan and follows its model (Diamond OA scholarly Communication Ecosystem); it is therefore free of charge for authors and readers and accessible to all health professionals and patients.

Ethical considerations: *before submitting their abstracts, all authors were informed that their articles would be published in the BDD and translated into French. Authors retain the copyright of their articles.*

Declaration of interests: *Publication of these abstracts is provided free of charge by the French Registry of Peritoneal Dialysis and Home Hemodialysis. No payment or grant has been received from EuroPD or any third party for this work.*

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Abstracts of oral communications

O-1 - New Insights On Glucose-Sparing Solution Reveal Protective Effects On Peritoneal Membrane Adopting A Cutting-Edge Intravital Microscopy Based Approach

Luciano D'Apolito[1,2], *Valentina Masola*[3], *Abbas Shams*[1,2], *Anna Iervolino*[1,2], *Angelo D'Alessandro*[4], *Mario Bonomini*[5], *José Carolino Divino- Filho*[6], *Tommaso Prosdocimi*[7], *Arduino Arduini*[7], *Giovambattista Capasso*[1,2], *Francesco Trepiccione*[1,2]

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OBJECTIVES

Peritoneal dialysis (PD) represents a valid option for end-stage kidney disease patients, enabling the removal of metabolic waste products, excess fluids and uremic toxins through the peritoneal membrane. Conventional dialysates at high glucose concentrations trigger in the long term critical pathological conditions such as peritoneal fibrosis, angiogenesis, and epithelial-mesenchymal transition with consequent clearance failure.
Pre-clinical research in this field suffers from limited in vivo models.
For this purpose, we propose a cutting-edge method, based on multi-photon microscopy (MPM), to study the dialytic capacity of peritoneal membrane and to evaluate in vivo the effects of biocompatible dialysates in rat models of fibrosis, subjected to dialysis treatment.

METHODS

The dialysis treatment was conducted on rats receiving for 15 days a daily intraperitoneal injection of conventional glucose-based dialysate or a new glucose-sparing solution that keep iso-osmolality by substituting glucose with L-carnitine and xylitol (XyloCore).
We have implemented a surgical procedure to optimize the stability of a flap of parietal peritoneum to allow direct microscope observation.

With MPM technology we are able to quantify blood flow, degree of fibrosis and vessels distribution with very high resolution and without the use of specific markers.

RESULTS

Treatment with XyloCore was associated with a significantly lower collagen deposition in the sub-mesothelium, when compared to rats treated with conventional PD solution. The trend was the same considering the density of collagen fibers and the vascular composition, as well as the number of branch points. Furthermore, metabolomic analysis on membrane extract and abdominal liquid showed a marked difference in several metabolic pathways.

CONCLUSIONS

XyloCore solution is able to prevent the hyperglycolytic condition on the peritoneal membrane induced by glucose-based dialysates. Our innovative in vivo approach confirms findings from previous in vitro studies and suggests that long-term protective effects may be achieved with this biocompatible glucose-sparing dialysate.

O-2 - Comprehensive Analysis Of Phosphate Transporters In Peritoneal Cells And Tissues And Their Transport Kinetics In Vitro

Zhiwei Du[1], *Maria Bartosova1, Iva Marinovic*[1], *Eszter Levai*[1,10,11], *Susanne Krug*[6], *Mohammed AlSaeedi*[9], *Ari Mehrabi*[9], *Betti Schaefer*[1], *Conghui Zhang*[1],*Theo Lucante*[7,8], *Ariane Zaloszyc*[7,8], *Rory Morty*[12], *Rebecca Herzog*[2,3,4], *Klaus Kratochwill*[2,3,4], *Sotiris Zarogiannis*[1,5], *Claus Peter Schmitt*[1]

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OBJECTIVES

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Due to low dialytic clearance, hyperphosphatemia is frequent in PD patients and poses a significant cardiovascular risk. Molecular mechanisms of phosphate removal across the peritoneal membrane are uncertain.

METHODS

Phosphate transporter expression was assessed in RNAseq of mesothelial (HPMC, MeT5A) and endothelial (HUVEC, HCMEC) cells, in parietal peritoneum and microdissected omental arterioles from children with normal renal function (NRF), chronic kidney disease (CKD5), and treated with double chamber PD fluids. Phosphate transporter location and abundance was assessed by immunostaining, and phosphate transport in transwell systems.

RESULTS

Of nine well described phosphate transporters, PiT1(SLC20A1) and PiT2(SLC20A2) were highly expressed in all four cell types, SLC34A2 only in HPMC and SLC34A3 in MeT5A. In arterioles from PD patients, four phosphate transporters, SLC34A1, PiT1, PiT2 and SLC17A1, were expressed, PiT1 was being two-fold more abundant in arterioles of PD patients, compared to CKD5 and NRF.
In parietal peritoneal membranes, PIT1 was abundant in mesothelial and endothelial cells, with no differences in children with NRF, CKD5 and on PD. In vitro, phosphate transport across cell monolayers was established adding 2mM phosphate to phosphate free media in the apical compartment. 60% of phosphate crossed the mesothelial monolayer to basolateral compartment within 12 hours. Addition of 1mM PFA (inhibitor of SLC20/34 families of sodium-phosphate cotransporters) or together with 1μM Tenapanor (NHE3 blocker, inhibiting paracellular phosphate transport) reduced phosphate transport by 10% and 20%. Cell integrity, cell death markers, transepithelial electrical resistance and junction anchoring membrane protein zonula occludens-1 were unaltered.

CONCLUSIONS

We provide the first comprehensive expression, and localization analysis of phosphate transporters in peritoneal cells and tissues including arterioles and regulation by CKD5 and PD. A Transwell system to quantify phosphate transport across peritoneal cell barriers and the effect of modulators has been established.

O-3 - Evaluating The Impact Of Frailty Status On Outcomes In Patients Receiving Peritoneal Dialysis

Christy Abraham[2], *Rajkumar Chinnadurai*[1], *Henry HL Wu*[3], *Joanne Collier*[1], *Joanne Martin*[1], *Dimitrios Poulikakos*[1,2], *David Lewis*[1,2]

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OBJECTIVES

Frailty is a complex, age-associated multi-dimensional syndrome and an established predictor of adverse health outcomes. Currently, there is a paucity of data which evaluated the impact of frailty status on outcomes in patients receiving peritoneal dialysis (PD). Our study aimed to evaluate the associations between frailty status and outcomes of patients receiving PD.

METHODS

This is a single-centre, cross-sectional observational study conducted for 88 PD patients under follow-up at Salford Royal Hospital Renal Unit between April 2022 and May 2023. Baseline clinical characteristics were gathered from electronic patient records. Patients were subdivided into two groups based on the Rockwood Clinical Frailty Scale (CFS) - 'Frail' (CFS≥5) or 'Not Frail' (CFS<5). Baseline characteristics between these groups were compared. Binary logistic regression analysis was performed to identify risk factors that are predictors of mortality, and a Kaplan-Meier graph was constructed to aid the visualisation of survival probability.

RESULT

Median age was 56 years (range 20-84) overall with a predominance of males (59.1%) and those of white ethnicity (69.3%), in which these characteristics were statistically similar between the two groups. A significantly higher proportion of patients in the 'frail' group had a history of diabetes (61 vs 25%; p=0.002), ischaemic heart disease (39 vs 12%; p=0.005), myocardial infarction (30 vs 5%; p=0.001), and cerebrovascular accidents (30.4 vs 4.6%; p=0.001). The median number of co-morbidities (8 vs 6; p=0.004) and number of medications prescribed (14 vs 11; p=0.009) appeared significantly higher amongst patients in the 'frail' group. 11 patients (12.5%) died, with a median follow-up of 8 months. Amongst those who died, a higher proportion were from the 'frail' group (30.4 vs 6.2%; p=0.002). Binary logistic regression analysis showed older age, a higher CFS score and having a greater number of co-morbidities as significant predictors of mortality. Kaplan-Meier analysis demonstrated survival probability was lower in patients with higher CFS scores. (Log-Rank p=0.005).

CONCLUSIONS

Being older, frailer and having more co-morbidities were found to be significant predictors of mortality in our patient cohort. A multi-disciplinary, individualised management approach is warranted for older PD patients living with frailty to promote shared decision-making and optimisation of care.

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O-4 - Evolution Of Nutritional And Anthropometric Parameters. Longitudinal Follow-Up Before And After Peritoneal Dialysis

Jose Ramon Rodriguez Palomares[1], *Nerea Begona Boldoba*[2], *Inmaculada Nieto Abad*[3], *Maria Moran Magro*[4], *Alicia Pena Garcia*[5], *Pablo Rodriguez Doyaguez*[6], *Alba Benito*[7], *Gabriel de Arriba de la Fuente*[8]

Sescam[1], *Universidad de Alcalá de Henares*[2]

OBJECTIVES

Renal failure and peritoneal dialysis (PD) are associated with changes in nutritional status due to factors such as inflammation, uremia, anorexia and caloric intake of dialysis solutions.
Objectives: To identify the chronology of these modifications from the year before to the two years after the start of therapy with PD.

METHODS

Prospective longitudinal study. Biochemical, anthropometric and body composition data were collected bimonthly from one year before the start of PD to two years after it. The evolution was analyzed using Student's t-test, non-parametric tests and Pearson's correlation.

RESULT

Predialysis period: Anthropometric parameters and hydration status did not change. There was a significant weight loss and a decrease in lean mass and increase in fat mass, starting from 4 months before the start of PD.
Dialysis period: At the beginning, there was a significant weight gain from the sixth month in PD. From month 14, the weight stabilized. This weight gain was not associated with changes in water volume. While the abdominal perimeter increased statistically from month 12 in PD, we did not find differences in the evolution of the brachial perimeter. The lean mass increased, by bioimpedance, during the first 6 months of dialysis and began to decrease significantly in the last 6 months accompanied by an increase in fat mass. Anthropometric changes in PD patients were not relevant. At the end of the predialysis period, weight and body composition changes associated with malnutrition began to show. The start of therapy partially corrected malnutrition, improving uremic, acid-base and inflammation conditions along with the caloric intake of dialysis solutions. At 18 months after starting, we again observed anthropometric and body composition changes with a tendency to sarcopenic obesity.

CONCLUSIONS

We must strive to change nutrition strategies before entering the technique and take extreme measures from a year and a half of PD.

O-5 - Ultrafiltration In Pd. Interrelation With Body Composition And Intraperitoneal Pressure

Alicia Sobrino-Pérez[1,2], *Vicente Pérez-Díaz*[3,4], *Luisa Sánchez-García*[5], *Sandra Sanz-Ballesteros*[3], *Felipe-Fernández Carmen*[6] *Esther Hernández-García*[7],*Victoria Oviedo-Gómez*[7], *Raquel de Toro-Casado*[8], *María José Fernández-Reyes Luis*[9], *Astrid Rodríguez-Gómez*[9]

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OBJECTIVES

Ultrafiltration is one of the main concerns in Peritoneal Dialysis (PD) and it is known to decrease with increasing intraperitoneal pressure (IPP) which in turn is proportional to body mass index (BMI) i.e. the degree of obesity. Now, we investigate possible correlations between body composition (BC), IPP and ultrafiltration in PD.

METHODS

We performed in 76 PD patients two 4h, 4.25/3.86% glucose, peritoneal equilibration tests (PET) separated by 1 week, with 1L and 2L of intraperitoneal volume, respectively. Spectroscopic bioimpedance and IPP (empty abdomen) measurements were made before each test. We studied the influence of BC and IPP in UF.

RESULT

We included 76 patients (54 men), 62±14 (25-89) years, PD vintage 14±17 (1-75) months.

- Mean IPP was 7,71±3,1 (0,75-15) cmH2O without differences between different measurements.
- BMI was 26,49±4,35 (16.57-39.95) kg/m2. Mean lean tissue index (LTI) was 15,08±3,71 (7.8-25) kg/m2, fat tissue index (FTI), 10,64±5,6 (1.4-30.15) kg/m2 and overhidration (OH), 1,39±1,86 (1.5-5.65) litres. No significant differences between first and second bioimpedance were found.
- UF was 460,31±229,71 (0-1216) ml in PET-1L and 657,41±308,57 (-82-1575) ml in PET-2L ($p<0.01$).

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- IPP correlated with BMI (r=0.567, p<0.01) and FTI (r=0.407, p<0.01), but not with LTI or OH. In line with previous studies, IPP had a negative correlation with UF in PET-2L (r=-0.253, p=0.028) and close to significant in PET-1L (r=-0.223, p=0.055).
- BMI correlated with FTI (r=0.672, p<0.01), not with LTI or UF.
- While OH did not correlated with UF, mean LTI did in PET-1L (r=0,296; p=0,01) and in PET-2L (r=0,282; p=0,014). FTI showed a negative correlation with UF in PET-1L (r=-0,240; p=0,038), and almost significant in PET-2L (r=-0.214, p=0.064).

CONCLUSIONS

BC is a relevant factor in PD not fully studied. These results support the hypothesis that variations in BC, and specifically in FTI, could increase IPP, counteracting secondarily UF.

O-6 - Benchmarking Computational Models Of Peritoneal Dialysis

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OBJECTIVES

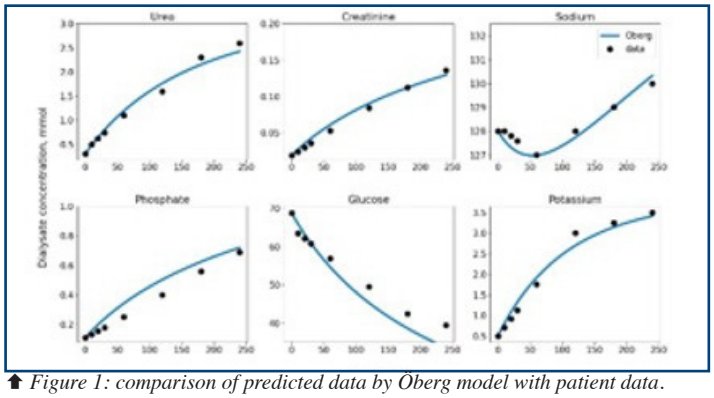
Among the many computational models of the Peritoneal Dialysis, what lacks is a benchmarking of the models on the same clinical dataset. In this work, we look at some of the historical and modern models of PD and benchmark the efficiency of the models in predicting time-dependent evolution of six solute dialysate concentrations (urea, creatinine, sodium, potassium, glucose and phosphate).

METHODS

We chose two mechanistic models (Graff et al., Öberg et al.) and two analytical models used in clinical practice (Garred et al., Waniewski et al.). The four models, in combination, encompass various mechanisms that are essential to PD (diffusion, convection, lymphatics). We collected experimental data from multiple dwell studies in one or two sessions (n = 16) performed in pigs. We trained each of the models by fitting the dialysate solute concentrations (in some of the dwell studies) to predict the mass transfer area coefficients (MTAC) of each solute. Using the fitted MTAC, we predict the dialysate solute concentrations in the rest of the dwell studies. We assessed the root mean square error (RMSE) and the physiological plausibility of the fitted MTAC to find the best performing benchmark model (table 1, figure 1).

⬇ *Table 1: Is the model RMSE per solute (<±3%), is the model applicable to all the datasets, are the predicted MTAC physiological? Graff model (model 1-6) is a comparison of six models with the convection and lymphatics mechanisms turned on and off. Column 1-3 represent diffusion, convection and lymphatics parameter whether fixed or fitted (✓) in the model. Column 4-6 represent the accuracy of predicting urea, creatinine, sodium, phosphate, glucose, potassium dialysate concentration. Column 10 represents generalisability of the model to different datasets and 11 represent plausibility.*

Model	1	2	3	4	5	6	7	8	9	10	11
Graff1	✓		fixed	✓	✓		✓	✓	✓	✓	
Graff2	✓	fixed	✓	✓	✓				✓		
Graff3	✓	✓	fixed	✓	✓		✓	✓	✓		
Graff4	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Graff5	✓	fixed	fixed	✓	✓		✓	✓	✓	✓	
Graff6	✓	✓	✓								
Öberg	✓	literature	literature	✓	✓	✓	✓	✓	✓	✓	✓
Garred	✓	fixed		✓	✓	✓	✓	✓	✓	✓	
Waniewski	✓	fixed		✓	✓	✓	✓	✓	✓	✓	



⬆ *Figure 1: comparison of predicted data by Öberg model with patient data.*

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RESULTS

Öberg et al.'s three pore model is the optimal model in terms of low error in solute concentration predictions, applicability of the model to multiple datasets (with different initial dialysate concentration), physiological MTAC values and reasonable ultrafiltration values in pigs. It was the only model able to predict the dip in sodium concentration following the initial ultrafiltration.

CONCLUSIONS

We can use three pore model to get more accurate predictions when trying to optimise novel peritoneal dialysis devices for personalised treatment option.

O-7 - Exit Site Infection Rates: Historic Data To Inform A Nurse-Led Continuous Quality Improvement Process

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OBJECTIVES

Exit site infection (ESI) is a significant complication of peritoneal dialysis (PD) access, defined as the presence of purulent discharge, with or without erythema. The recent International Society for Peritoneal Dialysis (ISPD) updated guidelines for catheter-related infection have identified a target of 0.4 episodes per patient-year at risk, though there is a limited evidence base to support this rate. This project set out to establish the local historic ESI rate to inform a nurse-led continuous quality improvement process.

METHODS

Baseline ESI data was obtained from a retrospective observational cohort including all patients who received care at a single large urban healthcare provider, in the United Kingdom between January 2013 and December 2022. Annualised rates were calculated, alongside a baseline rate over the decade which accounted for wide variations in the population at risk. Following the introduction of a nurse-led continuous quality improvement process (QIP) in 2022 key themes contributing to infection were reviewed.

RESULT

Over the decade of interest, the annual ESI rate varied between 0.33 (2013) and 0.13 (2017) events/patient/year, with an overall rate of 0.21 events/patient/year. There was a progressive increase in the sizer of the prevalent PD population from 2017 to 2023, this was associated with an increase in the ESI rate, though at all times the rate was lower than the ISPD recommendations. Over the decade, culture-negative ESI accounted for a third of cases. During the final year (2022), of 38 incidences of ESI, 28 (74%) resolved with treatment, 7 (17%) required catheter exchange, while 3 (8%) resulted in transfer to haemodialysis, with some but not all identified in association with peritonitis. Retrospective analysis of ESI highlighted historical issues, particularly around follow-up of exit site infection and care following infection.

CONCLUSIONS

ESI are associated with significant morbidity but the acceptable target for ESI rate remains unclear. High rates of culture-negative ESI may relate to the subjective nature of purulent discharge. Nurse-led continuous QIP is central to addressing ESI rates as it is this group who have particular expertise in exit-site care and who are most involved in supporting patients around the time of infection. With nurses taking ownership on monitoring infection rates, nurses are empowered to initiate treatment plans but also identify themes which can be addressed to improve outcomes for patients.

O-8 - Dynamic Predictions Of All-Cause Mortality In Incident Peritoneal Dialysis Patients: Utilizing Robust Joint Models With Longitudinal Albumin And Competing Risks Adjustment

Ivan Damgov[1,2], *Meinhard Kieser*[2], *Peter Rutherford*[3], *Mark Lambie*[4,5], *Simon Davies*[4,5], *Muh Wong*[6], *Carol Pollock*[7], *David Johnson*[8,9], *Claus Schmitt*[1]

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OBJECTIVES

Joint models (JM) allow investigation of association between longitudinal biomarkers and mortality in patients and provide individual patient dynamic risk predictions. We applied JM for the first time in peritoneal dialysis (PD) patients, considering presence of outliers and competing events.

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METHODS

We assessed the relationship between albumin levels and all-cause mortality in incident peritoneal dialysis (PD) patients during an 8-year follow-up within the Initiating Dialysis Early And Late trial. Our innovative JM accounted for both outlying individuals in the population and outlying observations within an individual's set of albumin measurements. We also considered transfer to hemodialysis and transplantation as competing events. The dataset was randomly split into training (3/4, N=236) and validation (1/4, N=78) sets for model fitting and predictive performance evaluation. We generated 6-month survival predictions for individual patients at 1, 1.5, and 2 years, using albumin trajectory and baseline risk factors.

RESULT

A median of 9 albumin records per patient and a 35% death rate ensured convergence of all 12 joint models. Albumin hazard ratio of death remained robust (0.78 to 0.82), suggesting significant inverse relationship between albumin and death across all models. Longer follow-up improved the prediction accuracy of all JM in the validation dataset. JM with competing events outperformed JM with survival only (area under the curve (AUC) ranges at 1, 1.5 and 2 years: 0.54-0.60 vs 0.53-0.56, 0.85-0.87 vs 0.79-0.83, 0.88-0.95 vs 0.88-0.93), regardless of albumin outlier structure. Prediction performance of all JM well surpassed classical Cox model with baseline albumin (AUC = 0.46, 0.72, 0.73). Results were confirmed by two simulation studies.

CONCLUSIONS

This first comprehensive JM in dialysis patients demonstrates utility for dynamic personalized survival prediction, with robustness of estimates in the presence of outliers and higher predictive accuracy when adjusting for competing risks showing marked superiority to the classical Cox approach.

O-9 - A New Externally Validated Prognostic Model For Survival In Incident Peritoneal Dialysis Patients

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OBJECTIVES

Several prognostic models for all-cause mortality in people treated with peritoneal dialysis (PD) have been published in the literature but are rarely used in clinical practice. Reasons include lack of external validation, methodological flaws, selection bias of study participants, limited time horizon or inclusion of predictors that are not easily available in the clinic. We aimed to build a prognostic model for the PD population that addressed these concerns.

METHODS

Data from 478 incident PD participants from the Global Fluid Study was used to build a prognostic model due to its long follow-up, (8 years), good data completeness, and its inclusion of patients from 3 continents, accounting for potential genotypic differences. Data included demography, comorbidity, time on treatment and biomarkers. Cox proportional-hazards regression models were used to build a prognostic model to estimate the risk of all-cause mortality. Subsequently, this prognostic model was externally validated in three cohorts – the international PDOPPS, and two single-centre cohorts from Shanghai, China and Vienna, Austria.

RESULT

Two models were developed: (1) A core model including age, albumin, and comorbidities, with a Harrell discrimination of 0.77 95% CI [0.72, 0.79], which when corrected for optimism was 0.77. (2) A more comprehensive model that included age, albumin, CRP, renal clearance, and comorbidities, with similar discrimination, 0.77 95% CI [0.72, 0.79], and when corrected for optimism, 0.77. In the external validation cohorts, discrimination varied between 0.62 and 0.8 in the three cohorts with fair (PDOPPS) to excellent (Vienna) calibration at 1, 3 and 5 years.

CONCLUSIONS

These new prognostic models performed well, with good preservation of discrimination and reasonable performance on calibration, and have the advantage of simplicity and clinical utility. The addition of baseline CRP and renal clearance did not improve performance which is best in European, Korean and Canadian populations, and good in the Chinese population.

O-10 - Effect Of Peritoneal Dialysis In End-Stage Renal Disease On Apixaban Pharmacokinetics

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OBJECTIVES

Limited pharmacokinetics data are guiding the use of apixaban in ESRD patients on hemodialysis but none on peritoneal dialysis. The objective of the ApiDP study was to assess the effect of peritoneal dialysis in ESRD patients on the pharmacokinetic parameters of apixaban.

METHODS

ApiDP (NCT04006093) was a prospective, controlled pharmacokinetics trial which included ESRD patients on peritoneal dialysis in two French University hospitals. Twelve ESRD patients on peritoneal dialysis were included, each was matched to a healthy volunteer with normal renal function based on age, weight and sex to act as control. A single oral 5mg dose of apixaban was administered and adequate blood, urine +/- dialysate samples were collected for determination of pharmacokinetic and pharmacodynamic parameters during 72 hours.

RESULT

The mean (±SD) age was 63 (+/-9) years old. Among peritoneal dialysis patients, all had a mean urine output of 1180 (±480) ml/24h and a mean renal clearance of endogenous creatinine and urea (UV/P) of 2.27 (±1.31) ml/min. Volunteers had a mean estimated glomerular filtration rate (CKD-EPI) of 88 (±10) ml/min. In patients, the geometric mean Cmax, Tmax, and apparent volume of distribution values did not significantly differ from those of healthy group. However, compared to controls, apixaban AUCO-inf and T1/2 from ESRD patients on peritoneal dialysis were significantly higher: +73% [17-156] (p=0.011), and +40% [24-58] (p<0.001), respectively. Apparent total plasma clearance varied in line and was 40 % lower (p=0.016). Renal and peritoneal clearances, 1.0 ±0.1 ml/min and 0.2 ±0.1 ml/min respectively, were negligible compared with the 12.4 ±0.7 ml/min renal clearance determined in volunteers.

CONCLUSIONS

Peritoneal dialysis does not compensate for impaired renal elimination of apixaban. Our study supports the cautious reduction of apixaban dose from 5 to 2.5 mg twice daily for ESRD patients on peritoneal dialysis, subject to further pharmacokinetics/pharmacodynamics further studies and clinical trials.

O-11 - How Effectively Can One Long Peritoneal Dwell With Extraneal Replace Two Short Dwells With Glucose-Based Solutions?

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OBJECTIVES

Due to slower dissipation of the osmotic gradient, icodextrin can improve, compared to glucose solutions, water removal during long dwells and has the additional metabolic advantage that fast glucose absorption is replaced by slower absorption of complex carbohydrates. We investigated scenarios where one long dwell with Extraneal replaced two exchanges with glucose-based solutions.

METHODS

The three-pore model with icodextrin hydrolysis being considered was used to simulate the impact of peritoneal dialysis schedules on fluid and solute removal in patients with fast and average transfer. We considered reference prescriptions with 3 or 4 daily exchanges with 2 L glucose-based solutions (Dianeal 1.36% G1 or 2.27% G2) compared with replacing two of these with one Extraneal 7.5%. We simulated daily ultrafiltration (UF), absorbed carbohydrates (AbsCHO, for glucose and glucose polymers), ultrafiltration efficiency (UFE=UF/AbsCHO), and removed solute mass for sodium (ReNa), urea (ReU), and creatinine (ReCr) for schedules before and after replacement by Extraneal, for varying dwell time and patients with different transfer status.

RESULT

The replacement of two glucose exchanges by single Extraneal exchange for the long dwell in reference prescriptions with G1 or G2 (with reduction of the number of daily exchanges from 3 to 2 or from 4 to 3) provides similar or greater daily removal of water (maximally by +1.3 L) and sodium (maximally by +172 mmol), especially in fast transfer status (see examples in Table), together with markedly higher daily UFE. Daily removal of urea and creatinine was lower by 3-16% (for schedules with G1) and 11-29% (for G2) depending on transfer status.

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FAST TRANSFER STATUS									
Reference Prescriptions			New Scenarios A	New Scenarios B	Reference Prescriptions			New Scenarios A	New Scenarios B
	3 x DAY		2 x DAY			4 x DAY		3 x DAY	
	3xG1: 8H+8H+8H	3xG2: 8H+8H+8H	1xIco+1xG1: 16H+8H	1xIco+1xG2: 16H+8H		4xG1: 3x4H+12H	4xG2: 3x4H+12H	1xIco+2xG1: 12H+2x6H	1xIco+2xG2: 12H+2x6H
UF, mL	-1198	326	139	647	UF, mL	-963	860	82	1034
AbsCHO, g	71.6	119.8	78.6	94.7	AbsCHO, g	87.3	143.9	95.6	125.7
UFE, mL/g	N.A.	2.7	1.8	6.8	UFE, mL/g	N.A.	6.0	0.9	8.2
ReNa, mmol	-130.2	73.6	41.8	109.7	ReNa, mmol	-98.1	129.9	42.5	165.3
ReU, g	5.2	6.9	4.5	5.0	ReU, g	7.5	9.3	6.6	7.6
ReCr, g	0.41	0.53	0.35	0.39	ReCr, g	0.55	0.67	0.51	0.58

CONCLUSIONS

Replacing two glucose solution dwells with one long dwell with Extraneal in patients with fast and average transfer status leads in most investigated scenarios to increased daily water and sodium removal, especially in fast transfer status, and consistently higher UFE, while urea and creatinine removal is lower.

O-12 - Increasing The Adoption Of Homebased Therapies Through Improved Advanced Kidney Care Education: A Call For Action

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OBJECTIVES

Home-based ESKD treatment has several advantages, but there is only a small minority of patients who opt for a home-based dialysis modality. To guide treatment modality choice, appropriate education by trained professionals is essential. In 2010, an ERBP advisory board issued a clinical advice to improve education on dialysis modality selection. We examined the current existence of structured education tools to support healthcare professionals providing patient education in 20 European countries.

METHODS

An appointed group of experienced European CKD professionals gathered in Copenhagen, Denmark in June 2023. The goal was to review available advanced kidney care education models for healthcare professionals involved in patient education. We examined the relation between presence of educational tools and national guidelines with the prevalence of home-based treatments in 20 European countries. Positive intraoperative verification of fibrous encapsulating formations has given pathohistology report that confirmed EPS.

RESULT

The proportion of patients on home-based dialysis treatment varies considerably, but is generally low, with a share of <10% in seven and <15% in twelve of the 20 examined countries.

There are large differences between European countries in the organization of education and a general lack of structured education tools to support professionals in educating CKD patients about home-based treatments. Countries with more widely available education tools tend to have higher prevalence of home-based treatment.

CONCLUSIONS

A lack of structured educational tools and national guidelines to support healthcare professionals on patient education was observed in many European countries. This likely contributes to the observed low adoption rate and variable penetration of home-based treatments. Coordinated action is needed to establish a structured advanced kidney care education curriculum, as an essential part of comprehensive CKD patient care. This will pave the road for improved shared decision support, more home-based therapies and a better, individualized kidney care.

O-13 - Efficacy and Safety of Intraperitoneal Low Molecular Weight Heparin versus Unfractionated Heparin Peritoneal Dialysis Peritonitis: A Randomized Controlled Study

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OBJECTIVES

Peritonitis remains a significant concern, leading to technical failure in peritoneal dialysis programs. The International Society for Peritoneal Dialysis (ISPD) guidelines recommend using intraperitoneal (IP) unfractionated heparin to prevent fibrin formation. However, there is a lack of data on the efficacy and safety outcomes of using IP low molecular weight heparin (LMWH).

METHODS

We conducted a single-center, randomized controlled trial at Siriraj Hospital, enrolling patients with peritoneal dialysis peritonitis. Patients were assigned in a 1:1 ratio to receive either IP enoxaparin 4000 units or IP unfractionated heparin. We evaluated demographic data, average ultrafiltration (UF) change, peritoneal solute transfer rate (PSTR), technical failure, and interleukin-6 (IL-6) levels before and after the intervention. The study protocol was approved by the Siriraj institutional review board (SI067/2564).

RESULTS

We recruited twenty-one patients, with nine receiving IP enoxaparin and twelve receiving IP unfractionated heparin. IP enoxaparin demonstrated a better average UF change (in milliliters) at day 30 ($p = 0.01$) and day 60 ($p = 0.03$). Both groups showed reductions in interleukin-6 and PSTR levels ($p = 0.16$ and $p = 0.74$, respectively). There was no significant difference in technical failure and serious adverse events between the two treatment groups.

CONCLUSIONS

In our preliminary study, IP enoxaparin resulted in a greater average UF change on days 30 and 60 compared to IP heparin. Additionally, IP enoxaparin showed a reduction in PSTR and interleukin-6 levels. Notably, there were no significant differences in serious adverse reactions related to IP enoxaparin treatment.

O-14 - The Association Between Glycaemic Control And Survival In Differing Cohorts Of Patients With Diabetes On Peritoneal Dialysis: Results From The PDOPPS

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OBJECTIVES

Diabetes is the leading cause of kidney failure globally affecting 40% of people receiving peritoneal dialysis. High quality data on the potential impact of improving glycaemic control is needed to inform the KIDGO recommendation to individualise HBA1c targets.

METHODS

The association between 1st HBA1c and all-cause mortality in people on peritoneal dialysis for kidney failure recruited into PDOPPS1 (2014-2017) and PDOPPS2 (2018-2022) identified as diabetic was estimated using cox proportional hazards models adjusted for age, sex, race, country, albumin, haemoglobin and comorbidities. To inform HBA1c individualisation, subgroup analyses drawn from these adjustment variables were performed.

RESULT

From 24,259 recruited into PDOPPS, 13,646 were identified as diabetic, 9,722 had HBA1c performed after a mean of 11.2 months PD therapy, mean follow-up 17.2 months. Mean HBA1c was 6.9% with 19% over 8%. Older patients, women and individuals with Indian subcontinent or aboriginal heritage had higher values. Mean HbA1c ranged from 6.4% in Japan to 7.3% in Canada. In Type II Diabetics, relative to HBA1c 6.0-7.0%, there was weak evidence for increased all-cause mortality for HbA1c >9% (HR 1.18 p=0.067), becoming more robust in those aged <65yrs (HR 1.4 p=0.01). In individuals with albumin >3.0g/dL, or those with no previous coronary artery disease (CAD), the threshold for significantly increased mortality dropped to >8% (HR ~1.2). The hazard ratio for mortality for the >8% threshold climbed to 1.92 for those aged <65years with both serum albumin >3.0g/dL and no previous CAD.

CONCLUSIONS

In diabetic adults receiving peritoneal dialysis for kidney failure, the associations seen between HBA1c and mortality argue for tighter individualised targets for particular patient subgroups (younger, non-inflamed and without established CAD) than clinical practice guidelines previously suggested. Other cohorts may have other disease drivers which influence mortality to a greater degree than glycaemic control, or their glycaemic control is not adequately reflected by HBA1c.

O-15 - Refining Total Body Water Estimation In Peritoneal Dialysis Patients: Unveiling A Novel Correction Factor For An Established Formula

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OBJECTIVES

Peritoneal dialysis (PD), quantified using Kt/V, is highly influenced by total body water (TBW) which is estimated using the Watson and Watson (WW) formula, an equation that becomes less accurate with increasing body mass index (BMI). We aim to provide a correction factor for the Watson and Watson formula for patients with a BMI over 25 that might be used where bioimpedance (BI) is unavailable.

METHODS

Portuguese single-centre retrospective study of every adequacy measurement performed contemporarily to BI. Difference between estimate formulas and BI derived adequacy were compared using BMI of 25 for cut-off. Measurements from a BMI under 25 were excluded and a linear regression was performed to predict BI-TBW from both WW-TBW and BMI in overweight patients.

RESULT

A total of 400 measurements were obtained from 90 patients. Obtained TBW was systematically superior using WW when compared to BI (38.7 ± 5.6 vs. 33.7 ± 5.6 litters, $p < 0.001$). This difference between WW and BI was greater for overweight patients (+5.8 vs +3.7, $p < 0.001$), resulting in a significantly lower adequacy results (-0.44 vs -0.25, $p<0.001$). A model was performed to predict BI-TBW from both WW-TBW and BMI. The model significantly predicted BI-TBW, $F(2, 225)=152.2$; $p < 0.001$; $R2 = 0.58$. The resulting model formula resulted in: BI-TBW=13.317+0.898*WWTBW-0.52*BMI. After solving for WW formula, the final formulas are: 1) for men: BI-TBW=15.5144+2.197406-0.08222*Age+0.0964452*Height+0.3019076*Weight-0.52*BMI; 2) for women: BCMTBW=11.22+0.09 59962*Height+0.2214468*Weight-0.52*BMI. Adequacy with this formula resulted in a KtV that was significantly closer to that obtained with BCM when compared to WW alone in overweight patients (-0.13 vs +0.39, $p<0.001$).

CONCLUSIONS

PD adequacy quantification is significantly different when using BI instead of WW formula for TBW. The proposed correction offers a solution to minimize discrepancy in overweight patients.

O-16 - The Use Of Lung Ultrasound In Assessment Of Volume Status In Peritoneal Dialysis Patients

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OBJECTIVES

Estimation of ideal volume status is a constant challenge in nephrology. This is usually based on clinical evaluation in association with other diagnostic tools. Lung Ultrasound (LUS) has been validated as an appropriate method for evaluation of extracellular lung water. Analogous to other patient populations, use of LUS evaluation may add to a more accurate determination of fluid status in peritoneal dialysis (PD) patients.

METHODS

We performed LUS on peritoneal dialysis patients, following the 8-zone protocol, a semiquantitative method (score 1-24) and inferior vena cava (IVC) evaluation during routine visits. Data collection regarding clinical and analytic data, physical exam, bioimpedance analysis (BIA), echocardiogram and thoracic radiograph was evaluated. Concordance between BIA; LUS and NT-proBNP was determined.

RESULT

Data of 22 patients was analyzed. Mean age 61 years ± 11, 59% male. Median time on PD was 30 months (IQR: 53-12), 27% patients on automated PD. Patients with higher B-line score had higher mean diastolic blood pressure (75 ± 11 vs 89 ± 15mmHg, p=0,029) and lower serum albumin (4,1 ± 0,3 vs 3,7 ± 0,5, p=0,032). We observed positive correlation between B-lines score and overhydration on BIA (r=0.625, p= 0,002), negative correlation with IVC Collapsibility Index (r= -0,722, p= 0,001). Similar results were obtained using the total number of B-lines. We did not identify a statistically significant correlation between NT-proBNP and B-line score (r=0,334, p=0,129), but an inverse correlation between residual renal function was observed (r=-0,628; p=0,002).

CONCLUSIONS

In our sample, correlation between B-Line Score, BIA and IVC collapsibility index was observed. LUS may be of use in clinical practice as a fast and easily available, omplementary method of fluid status evaluation in peritoneal dialysis in routine evaluations.

O-17 - EMT And Macrophage Subpopulation Related Diffuse Peritoneal Podoplanin Expression Predicts Peritoneal Vascular Disease

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OBJECTIVES

The pathophysiological role and prognostic value of diffuse, peritoneal podoplanin (DPP) in peritoneal dialysis (PD) patients without encapsulating peritoneal sclerosis (EPS) is uncertain.

METHODS

Digital histomorphometry was applied to peritoneal tissues from 215 children (8.5y, IQR 10.3), with normal renal function (NRF), CKD5, and on chronic PD with double chamber fluids. Tissues from 20 children with and without DPS were matched for age, PD duration and glucose exposure underwent high-dimensional multiplexed imaging mass cytometry followed by deep learning-based segmentation and spatial single-cell and cellular neighbourhood interaction analysis.

RESULT

DPP was present in 21% of PD children, while in peritoneal tissues from children with CKD5 and NRF, podoplanin expression was confined to only mesothelial and lymphatic endothelial cells. DPP positive patients were younger, had higher dialytic glucose exposure and more arteriolar lumen narrowing but no clinical, radiological or histological features of EPS. Dialytic glucose exposure, PD duration, lower body surface area (BSA) and epithelial-to-mesenchymal (EMT) transformed cell counts independently associated with DPP; arteriolopathy was associated with DPP and lower mesothelial coverage. DPP children had higher submesothelial leucocyte (CD45+) and macrophage (CD68+) counts, and higher lipopolysaccharide and hyaluronan receptor CD44 abundance. Tissues from 20 age- and glucose exposure matched children were used for the single cell analysis, 157000 cells were segmented. DPP areas were enriched in blood vessels, EMT cells and macrophages, while number of lymphatics was reduced. Strong podoplanin signals were derived from early EMT and macrophage subpopulations. Cellular neighbourhood analysis revealed spatial clustering of arterioles with EMT cells.

CONCLUSIONS

DPP is prevalent in children on PD devoid of EPS, and independently associated with peritoneal arteriolopathy. Independent DPP risk factors are high dialytic glucose and GDP exposure, history of peritonitis, BSA, peritoneal inflammatory and EMT cell invasion; EMT cells associated podoplanin expression may play a critical role in vascular disease.

O-18 - Peritoneal Dialysis (Pd) Effluent Derived Extracellular Vesicles To Establish Pd-Induced Peritoneal Alterations

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OBJECTIVES

In peritoneal dialysis (PD) exposure of the peritoneal membrane to glucose ultimately results in membrane function loss and fibrosis. With evolving therapies, biomarkers to assess peritoneal vitality and response to interventions mitigating peritoneal injury are mandatory. Extracellular vesicles (EVs) have been investigated as easy-accessible and stable biomarkers. We describe a clinically applicable technique to isolate and analyse the molecular cargo of PD-effluent (PDE)-derived EVs (PDE-EVs).

METHODS

PDE was collected from PD-treated adults. Cell-free PDE was obtained by centrifugation. PDE-EVs were isolated by subsequent filtration and size-exclusion chromatography (SEC). We used Western blot with EV-markers to confirm the presence of EVs in the SEC-fractions; qPCR of miRNA-21 and -10b was performed to check robustness of isolation. The molecular cargo of the PDE-EVs was analysed with miRNA sequencing. To explore whether different miRNA profiles were seen with a PD-vintage of less than 1 and more than 2 years, we performed a differential expression analysis.

RESULT

PDE of 20 patients was collected after use of varying glucose concentrations, dwell-times and with or without icodextrin. We confirmed presence of PDE-EVs in the SEC-fractions by Western blot. Ct-values of miRNA-21 and -10b showed robust signals for all types of PDE. miRNA sequencing was of good quality with 400-700 different miRNAs per sample, which is comparable to plasma-EV sequencing.

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Despite the small sample size, differential expression analysis showed significantly higher values of miRNA-449a and -449c-5p in patients with a PD-vintage of more than 2 years. These miRNAs promote epithelial and endothelial to mesenchymal transition.

CONCLUSIONS

We present a reproducible and clinically applicable method to isolate and molecularly characterize PDE-EVs, with promising preliminary results on miRNA signature profiling. Further characterization of the molecular cargo of PDE-EVs may serve as a novel means to monitor peritoneal changes and as a potential biomarker for risk stratification in terms of PD-related clinical outcomes.

O-19 - Peritonitis Is Linked To Decreased Peritoneal Immune Cell Function And Associated With Increased Peritoneal Inflammation

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OBJECTIVES

Chronic peritoneal inflammation and infectious complications occur in a significant proportion of PD patients. A relationship between peritoneal IL-6 levels and local immunocompetence is suspected. To analyse local immunocompetence, an ex-vivo stimulation assay of PD effluent was developed. The aim of this study was to analyse peritoneal inflammation and immunocompetence in a PD cohort in relation to clinical outcomes.

METHODS

Prospectively, 245 routinely performed 4-hour PETs (143 patients, 2679 patient-months) were analysed. An ex-vivo cell stimulation protocol of the fresh effluents was performed of all PETs. Peritoneal immune cell function was analysed using ex-vivo Toll-like receptor (LPS/Pam3Cys) stimulated IL-6 release as an index of immunocompetence. The molecular effects of effluent components and the addition of alanyl-glutamine to PD fluid were analysed in heterologous cell stimulation experiments and using an effluent proteomics approach.

RESULTS

IL-6 in the effluent showed no association with various patient characteristics (incl. RRF, underlying disease, peritonitis episodes, time on PD). A significant association of peritoneal IL-6 with solute transport rates and systemic markers of uraemic inflammation was found. IL-6 in effluent (HR 2.54) and stimulated 1h effluent (HR 0.34) was predictive of subsequent peritonitis episodes. An inverse association was observed with ex-vivo stimulated IL-6 release from peritoneal cells (p=0.02), most pronounced in patients with a history of peritonitis (p=0.008). Patients with above median elevated IL-6 levels showed reduced peritoneal immune cell function. The results were validated in an independent PD cohort (n=48). Heterologous donor-PBMC stimulation with effluents showed reduced immunocompetence with elevated IL-6 (p=0.038) and improved immunocompetence with alanyl-glutamine in PD-fluid.

CONCLUSIONS

This is the first longitudinal study to show the relationship between peritoneal inflammation and impaired immune function of peritoneal cells, possibly predisposing to infectious complications. The possible underlying mechanistic link may represent the biological correlate («immune-paralysis») for PD patients at increased risk for recurrent episodes of peritonitis.

O-20 - Long-Term Blood Pressure Variability And Risk Of All-Cause Mortality In Patients With Peritoneal Dialysis

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OBJECTIVES

Background: Variability in blood pressure (BP) has been recognized as a risk factor for mortality and cardiovascular events in the general population. However, most studies included patients with normal or near normal kidney function.
Aim: To study the association between BP variability and the risk of all-cause mortality in patients with end-stage-renal-disease (ESRD) and peritoneal dialysis (PD) treatment.

METHODS

From 2008 until the end of 2018, 2345 patients with ESRD and at least three months of PD (mean age: 63.8 years, men: 67%) were followed in the Swedish Renal Registry.
BP variability was defined as the coefficient of variation (CV=the ratio between the standard deviation (SD) and the mean value).
According to the variability of systolic BP (SBP) and diastolic BP (DBP), the patients were divided in six groups.
The relationships between BP variability and mortality were examined by Cox regression models to estimate hazard ratios (HR) and 95%

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confidence intervals (CI) in univariate and multivariate analyses, which included adjustments for demographics, laboratory findings, and comorbidities as well as the mean value of SBP and DBP during the study.
he group with variability of CV=0.10-0.15 was used as the reference group.

RESULT

During the follow-up period, 1054 (45%) deaths occurred. The mean level of BP variability was CV=0.10± 0.1. In the unadjusted analyses of SBP, the highest mortality rate was observed in the patients with the highest SBP variability (CV>0.25) of whom 64% (n=42) died. In the multivariate model, the lowest SBP variability group (CV≤0.05) (HR 1.78, 95% CI 1.48-2.16; p<0.001) as well as the highest SBP variability group (CV>0.25) (HR 1.68, 95% CI 1.19-2.37; p<0.001) had significantly increased risk of mortality. Similar results were observed for DBP variability. Among patients with the highest variability (CV>0.25), 62% (n=28) died. In the multivariate model, the lowest DBP variability group (CV≤0.05) (HR 1.81, 95% CI 1.51-2.17; p<0.001) and the highest DBP variability group (CV>0.25) (HR 2.26, 95% CI 1.51-3.37; p<0.001) had the highest risk of mortality.

CONCLUSIONS

The results of this study showed a U-shaped association between long-term variability of BP and the risk of mortality in patients with ESRD on maintenance PD. Thus, both very low and high levels of BP variability were related to a higher risk of mortality. We suggest that independent of the BP value, mild change and variability of long-term BP is beneficial in terms of survival during PD.

O-21 - Mechanisms Of Vascular Pathology Following Peritonitis In Peritoneal Dialysis Patients And Therapeutic Intervention

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OBJECTIVES

PD patients are at increased risk of CV death and this risk further increases following each peritonitis episode. However, the mechanisms by which a local infectious episode leads to maintained long-term CV risk are poorly described. We investigated a potential role for Damage-Associated Molecular Patterns (DAMPs) ligands for Toll-like receptors (TLRs) in mediating long-term vascular pathology following a peritoneal infection.

METHODS

The potential role of DAMPs in mediating long-term CV risk following peritonitis was evaluated by i) characterising the long-term vascular inflammatory changes induced by peritonitis in mice, ii) identifying potential target DAMPs following peritonitis by analysis of in vivo and PD patients' plasma samples, iii) mechanistically characterising the potential of our selected DAMP to promote key vascular inflammatory responses by critical cell types in vitro, iv) demonstrating, by pharmacologic inhibition, the critical contribution of a DAMP candidate to the maintenance of vascular pro-atherogenic responses following peritonitis in mice.

RESULT

Bacterial peritonitis in mice, resolved within 24h, led to vascular inflammatory responses expected to promote CVD that were maintained for 28 days. These included higher blood proportions of inflammatory leukocytes displaying increased adhesion molecule expression, higher plasma cytokines and increased aortic atherosclerosis-associated gene expression. These findings were maintained in nephropathic animals and exacerbated in animals routinely exposed to PD fluids. A peritonitis episode also led to elevated plasma levels of a specific TLR4 DAMP, Calprotectin, both in animals and PD patients, and this increase was maintained for 28 days in mice. In vitro, Calprotectin could promote key vascular inflammatory and pro-atherosclerotic responses: loss of endothelial resistance, monocyte chemotaxis and foam cell formation, via a reduction of cholesterol efflux. In vivo, Calprotectin blockade robustly inhibited the short and long-term vascular inflammatory consequences of peritonitis.

CONCLUSIONS

This study demonstrates the major role that the Calprotectin-TLR pathway plays in driving long-term vascular pathology following a peritonitis episode.

O-22 - Role Of Remote Monitoring In Automated Peritoneal Dialysis: Impact In SONG-PD (Standardized Outcomes In Nephrology–Peritoneal Dialysis). Results From RPM-APD Multicenter-Study

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OBJECTIVES

The use of remote monitoring (RPM) in automated peritoneal dialysis (APD) has shown a series of clinical advantages such as greater technique survival. The present study evaluated the association between RPM use and SONG-PD outcomes.

METHODS

A prospective observational multicenter cohort study included 232 patients in 16 Hospitals. A RPM program was used in 176 of the patients and 56 were treated with APD without RPM. The primary outcomes were standardized outcomes in Nephrology (SONG)-PD clinical outcomes defined as: 1) PD associated infection: number of peritonitis per patient2) Cardiovascular disease: was defined as the occurrence after enrollment of the first one of the following: angina or acute coronary myocardial infarction, ischemic stroke and peripheral arterial events 3) Mortality: expressed as number of deaths during follow-up. 4) Technique survival: as composite endpoint of transfer to HD >30 days or death. 5) Life participation: measured as health-related quality of life, using EuroQol-5D (EQ-5D-L).
Data was recorded al least during 6 months. Propensity score matching (PSM) 1:1 yielding 56 patients in each group was used to evaluate the association of RPM exposure with outcomes.

RESULT

There were no differences between baseline and demographic characteristics. Before PSM, APD with RPM (n=176) vs without RPM (n=56) was associated with less mortality (n=1 vs n=4) (HR (95%CI): (0.08 (0.01-0.69) (p=0.020) and with better technique survival (n=10 vs n=11) (HR (95%CI): (0.25 (0.11-0.59) p=0.001). After PSM , APD with RPM (n=56) vs without RPM (n=56) continued to associate con with better technique survival (n=3 vs n=11) HR (95%CI): 0.23 (0.06-0.83) (p=0.024) (see figures 1 and 2). No differences were shown in the rest of SONG-PD outcomes.

CONCLUSIONS

The use of an RPM program in APD patients may be associated with better technique survival. RPM could be a tool for improvement of APD therapy. More interventional studies are needed.

Table 1. Clinical outcomes associated with RPM in the matched sample

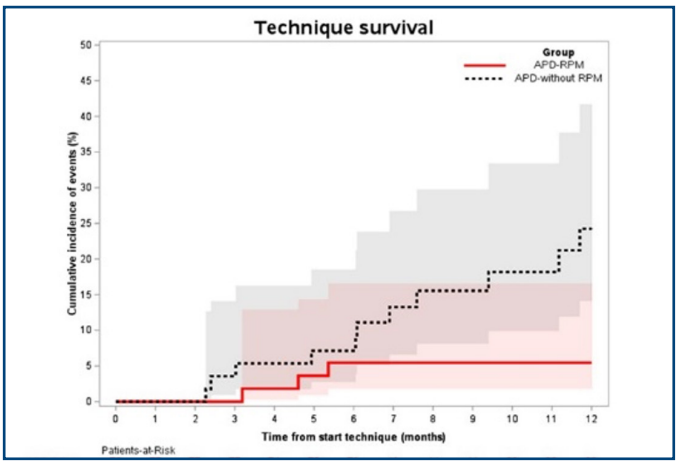
Outcomes	APD-RPM N=56	APD-without RPM N=56	OR (95%CI)* HR (95%CI) IRR (95%CI)	P value
Primary outcomes				
PD associated infection[1]	12 (21.4)	13 (23.2)	0.90 (0.37-2.21)	0.821
Infections per patient-year	0.34 (0.79)	0.30 (0.63)	1.11 (0.49-2.56)	0.792
Cardiovascular disease[2]	9 (16.1)	2 (3.6)	3.92 (0.84-18.2)	0.081
Mortality	1 (1.8)	4 (7.1)	0.24 (0.03-2.16)	0.204
Technique survival[3]	3 (5.6)	11 (21.6)	0.23 (0.06-0.83)	0.024
Secondary outcomes				
Hospitalization	19 (33.9)	21 (37.5)	0.86 (0.39-1.86)	0.693
Hospitalizations per patient-year	0.46 (0.74)	0.45 (0.63)	1.04 (0.59-1.81)	0.890
Unscheduled teleconsultation	43 (81.1)	39 (69.6)	1.87 (0.78-4.71)	0.168
visits per patient-year	3.15 (3.30)	2.16 (2.70)	1.46 (0.95-2.23)	0.081
Unscheduled hospital visit	31 (55.4)	39 (69.6)	0.54 (0.25-1.17)	0.120
visits per patient-year	1.55 (2.56)	2.38 (3.21)	0.65 (0.39-1.08)	0.099
Anti-HBP drugs (drugs per patient-year)	9.59 (8.74)	7.21 (6.37)	1.33 (0.96-1.84)	0.087

RPM: Remote patient monitoring; PD: Peritoneal dialysis; APD: Automated peritoneal dialysis; HBP: High blood pressure; OR: Odds ratio; HR: Hazard ratio; CI: Confidence interval; IRR: Incidence rate ratio.

1PD associated infection defined as the number of Peritonitis during follow-up.

2Cardiovascular disease defined as the occurrence after enrollment of the first one of the following angina or acute coronary myocardial infarctions, ischemic stroke, and peripheral arterial events.

3Technique survival defined as composite end point of transfer to HD>30 days or death



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Posters

P-1 - Breaking Automated Peritoneal Dialysis Barriers For People With Hearing Loss

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OBJECTIVES

The prevalence of hearing loss is rising among people with chronic kidney disease (CKD) because of population aging and increased life expectancy. The machines used in automated peritoneal dialysis (APD) use mainly audible signals, so hearing loss could be a limitation to perform APD. We expose different solutions to adapt APD in patients with severe hearing loss.

RESULT

For patient with mild hearing loss, the increased tone of the audible signals provided by commercially available APD machines could be sufficient. For those patients using hearing aids tuning the frequency (Hz) into low or high based on the characteristic of their own hearing loss could enable the detection of audible signals from the APD machine. However, these audible signals are primarily discontinuous, which makes them particularly challenging to detect. Besides, APD machines are designed to be used during sleep, so modifying the frequency of the hearing aids could lead to the indiscriminate amplification of other sounds, thus preventing patients from obtaining proper rest.

There are other devices, as baby monitor cameras or intelligent assistants like Siri ®, that can easily connected to hearing aids providing valuable assistance. These devices could amplify and distort the sounds of APD machine, turning them into loud noises resembling truck horns. However, one more those devices are unable to discriminate APD machine signals from other regular noises. Interestingly, other intelligent assistant like Alexa ® are capable to discriminate APD machine sounds, turning them into luminal signals. So, when the APD machine emits an alarm, the room´s light would automatically turn on, awakening the patient.
Other potentially helpful devices, however more expensive, are those capable of transform audible signals into vibrations, like SilWatch®. SilWatch® is a watch-type device that generates vibrations as an alarm when it receives information via radio transmission. SilWatch® need a transmitter device able to transform an audio signal into radio transmission, so the watch-type device would vibrate after an audible alarm.

CONCLUSIONS

Severe hearing loss should no longer be a barrier for APD patients.

P-2 - Analysis Of Endothelial And Platelet Microvesicles In Peritoneal Dialysis

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OBJECTIVES

Chronic kidney disease is associated with inflammation and endothelial dysfunction phenomena, these factors trigger the production of microvesicles at the endothelial and platelet level. These particles, depending on their activation markers, have a signaling and cellular communication role, generating pro-apoptotic, pro-inflammatory and pro-thrombotic stimulation.

METHODS

Cross-sectional study on a cohort of patients on peritoneal dialysis (PD) (n 36), haemodialysis (HD) (n 40), advanced chronic kidney disease (ACKD) (40) and healthy controls (HC) (18). Performing determination of endothelial microvesicles (EVM) and platelet microvesicles (PVM), with analysis of CD 31+, CD142+ (EVM) and CD31+, CD41+ and CD142+ (PVM) expression markers.

RESULT

EVM and PVM are increased in HD (2164±447,9), PD (1584 ±677,8) and ACKD (1222 ± 414) with respect to the HC (1136 ±507,5). HD patients have a greater number of EVM, with a higher expression of CD31+. PVM are more abundant in PD, but the expressivity of CD31+ and CD41+ is significantly higher in ACKD and secondly in HD, with respect to DP. The expressivity of tissue factor (CD142+ MVP) has a similar behavior, being higher in ACKD than in HD and PD.

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CONCLUSIONS

MVE and MVP are elevated in uremia. DP is able to reduce to a greater extent the presence of MV with markers of CD31+ activation and tissue factor (CD142+), which can be used as indicators of endothelial and prothrombotic damage.

P-3 - Comparing The Evolution Of Diabetics Vs Non-Diabetics In Peritoneal Dialysis In Andalusia (Spain): A 23-Year Analysis.

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OBJECTIVES

Analysis of a 23-year follow-up of all Andalusian peritoneal dialysis patients (PD) [Information System of the Regional Transplant Coordination of Andalusia (SICATA)] from January 1999 to December 2021 (23 years). The aim was to analyze the difference in the risk profile of diabetic patients compared with non-diabetic patients on PD, its influence on the reasons for discontinuation of the technique and on patient survival.

METHODS

We present the analysis of the PD registry from 1999-2021 comparing diabetics with non-diabetics to know how it has evolved in peritoneal dialysis and the impact of diabetes mellitus on survival.

RESULT

3736 incident patients who underwent DP between 1999 and 2023. The percentage of incident patients with diabetes mellitus at PD has increased over the years: 2003: 24.8%; 2020: 40.2%. The percentage of patients with diabetic nephropathy has also increased, but not to the same extent: 2003: 15.4%; 2020: 24.5%. Regarding the risk profile of patients, Table 1 shows that diabetic patients included in the technique have a significantly worse overall comorbidity profile than non-diabetic patients, with older age and more cardiovascular disease, resulting in a significantly higher Charlson comorbidity index.

Because of their higher risk profile, diabetic patients discontinue the technique in a lower rate due to transplantation (20% versus 49% without DM) and at a higher rate due to exitus than nondiabetic patients (44% versus 21%). Patient survival curve (Figure 1) show that when comparing log-rank curves, DM significantly affects patient survival by decreasing their survival rate

DIABETIC RISK PROFILE (vs non-DM):

p < 0,001 for all factors	Non-DM (%)	DM (%)	RR (IC 95 %)
Age > 45	69	91	4,4 (3,5-5,5)
Age > 70	19	35	2,3 (1,9-2,7)
CV disease (all)	23	65	6,4 (5,5-7,5)
Ischemic cardiopathy	7	26	4,4 (3,6-5,4)
Heart failure	12	37	4,2 (3,5-5,0)
Cerebral vasculopathy	3	11	4,03 (2,9-5,5)
Peripheral vasculopathy	8	37	6,4 (5,3-7,8)
Charlson Category			
Low (≤ 3)	52	2	
Medium (4-6)	37	36	
High (≥ 7)	11	62	

Table 1

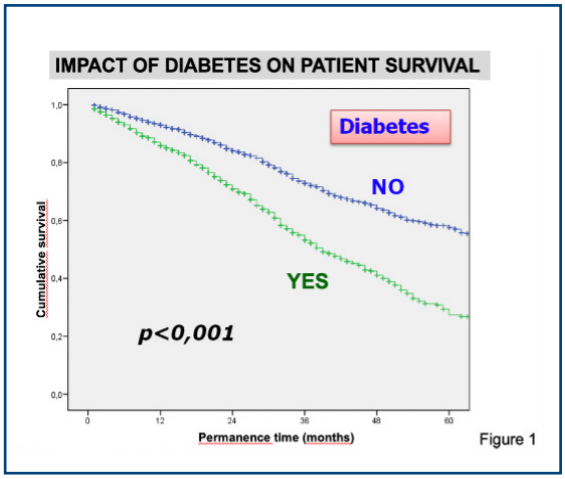

Figure 1

CONCLUSIONS

Diabetes is becoming more prevalent in our PD patients and has a significant impact on the outcome of the technique, the reason for discontinuation of the technique, and patient survival.

P-4 - Serum Malondialdehyde-Modified Low-Density Lipoprotein Level Is Biomarker Associated With Aortic Stiffness Among Patients Undergoing Peritoneal Dialysis

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OBJECTIVES

High malondialdehyde-oxidized-low-density lipoprotein (MDA-oxLDL) levels are associated with a high attributable risk for the occurrence of cardiovascular disease. The cardiovascular disease is still a major cause of mortality in peritoneal dialysis (PD) patients. The aim of this study was to evaluate the relationship between serum MDA-oxLDL levels on central arterial stiffness by measuring of carotid-femoral pulse wave velocity (cfPWV) values in PD patients.

METHODS

Fasting blood samples were obtained from 92 PD patients. Carotid-femoral pulse wave velocity (cfPWV) was measured by using pressure applanation tonometry. cfPWV values of > 10 m/s represented the aortic stiffness group, while values ≤ 10 m/s defined the control group, according to the ESH-ESC 2018. Serum MDA-oxLDL levels were quantified by using commercial enzyme-linked immunosorbent assay kits.

RESULT

In total, 33 (35.9%) participants were assigned to the aortic stiffness group with cfPWV of > 10 in PD patients. Compared to the control group, aortic stiffness group had more PD patients with diabetes mellitus (DM, P < 0.001), older age (P = 0.011), and higher body weight (P = 0.007), waist circumference (P < 0.001), body mass index (BMI, P < 0.001), systolic blood pressure (SBP, P = 0.034), serum triglycerides (P = 0.025), C-reactive protein (CRP, P = 0.012), and MDA-oxLDL (P = 0.001) level. Multivariable logistic regression analysis of the factors significantly associated with aortic stiffness revealed that MDA-oxLDL (odds ratio (OR): 1.171, 95% confidence interval (CI): 1.021–1.342, P = 0.024), DM (OR: 7.685, 95% CI: 1.879–31.436, P = 0.005), BMI (OR: 1.965, 95% CI: 1.270–3.038, P = 0.002), and SBP (OR: 1.040, 95% CI: 1.006–1.048, P = 0.074) were an independent predictor of aortic stiffness in PD patients. Multivariable forward stepwise linear regression analysis also showed that logarithmically transformed MDA-oxLDL level (log- MDA-oxLDL, β = 0.253, adjusted R2 change = 0.212, P = 0.005) was an independent predictor of cfPWV values in PD patients.

CONCLUSIONS

Serum MDA-oxLDL level was proved to be positively associated with cfPWV values and was independent predictor of aortic stiffness in PD patients.

P-5 - Positive Correlation Of Serum Indoxyl Sulfate Level With Peripheral Artery Stiffness By Cardio-Ankle Vascular Index In Peritoneal Dialysis Patients

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OBJECTIVES

Arterial stiffness predicting future cardiovascular disease. Indoxyl sulfate (IS) can augment oxidative stress, increase endothelial microparticle generation, induce vascular smooth muscle cell proliferation, and ultimately leading to arterial stiffness, which can lead to increased overall and cardiovascular mortality in patients with chronic kidney disease. Cardio-ankle vascular index (CAVI) is a marker of arteriosclerotic disease and is associated with cardiovascular events. The aim of this study is to examine the relationship between serum IS levels and peripheral arterial stiffness measuring by CAVI in peritoneal dialysis (PD) patients.

METHODS

Eighty-four adult PD patients who received regular PD for more than 3 months were enrolled in this study. CAVI values was derived using the waveform device (VaSera VS-1000). Left or right CAVI values that were > 0.9 were included in the peripheral arterial stiffness. Serum IS level was measured by liquid chromatography–mass spectrometry analysis.

RESULT

Among 84 PD recipients, 36 patients (42.9%) were in the peripheral arterial stiffness group. Compared with PD patients in the normal CAVI group, PD patients in the peripheral arterial stiffness group had older age (P = 0.023), higher serum C-reactive protein (CRP, P = 0.014), and serum total IS levels (P < 0.001), while lower peritoneal clearance of creatinine (P = 0.029). Multivariate logistic regression analysis, serum total IS level (Odds ratio [OR]: 1.164, 95% confidence interval [CI]: 1.059–1.281, P = 0.002) was the independent predictors of peripheral arterial stiffness in PD patients. Serum logarithmically transformed IS (log-IS) levels were positively correlated with left CAVI value (r = 0.411, P < 0.001), right CAVI value (r = 0.225, P < 0.039), and serum log-CRP levels (r = 0.293, P = 0.007) as determined by Spearman's correlation analysis.

CONCLUSIONS

In this study, serum IS levels were positively associated with CAVI values, and higher serum IS levels were independently associated with peripheral arterial stiffness in PD patients.

P-6 - Peritoneal Dialysis Induced Inflammation Aggravates And Accelerates Atherosclerosis In Uraemic Apoe-/- Mice

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Jamie Kane[1,2,3], *Winnie G Vos*[3], *Laura A Bosmans*[3], *Bram W van Os*[3], *Myrthe den Toom*[3], *Sanne Hoeksema-Hackmann*[4], *Denise Moen-de Wit*[4], *Marion J Gijbels*[3,5], *Linda Beckers*[3], *Aldo Grefhorst*[6], *Johannes HM Levels*[6], *Lily Jakulj*[1,7], *Marc G Vervloet*[1], *Esther Lutgens*[8], *Etto C Eringa*[2,9]

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OBJECTIVES

Atherosclerosis is highly prevalent in people with chronic kidney disease (CKD) including those receiving peritoneal dialysis (PD). While being life-saving, PD induces systemic inflammation which may promote atherosclerosis. We hypothesise that PD aggravates atherosclerosis via immune cell activation.

METHODS

Three groups of ApoE-/- mice were fed a high-cholesterol diet (HCD), two groups also underwent a 5/6 nephrectomy to induce CKD, and one additional group received daily peritoneal infusions of 3.86% Physioneal® for 67 days (CKD+PD). Mice were sacrificed twelve weeks after the nephrectomy and assessments of atherosclerotic plaques, and immune responses were performed.

RESULT

CKD+PD mice displayed more severe atherosclerotic disease than control mice. Plaque area increased, and plaques were more advanced, with a vulnerable plaque phenotype typified by decreased collagen content and fibrous cap thickness. Additionally, iNOS+ macrophages and CD3+ T-cells infiltrated plaques and perivascular adipose tissue (PVAT) of CKD+PD mice. CKD mice exhibited the vulnerable plaque phenotype and PVAT infiltration of CD3+ T-cells.

Only CKD+PD mice showed more CD4+ central memory and terminally differentiated Th1 cells, Th17, and vascular homing CX3CR1+ CD4+ T-cells with less regulatory and effector T-cells. CX3CR1 upregulation was replicable in vitro on CD4+ T-cells exposed to PD-fluid and uraemia.

CONCLUSIONS

PD-fluid exposure in uraemic mice potentiates inflammation and aggravates atherosclerosis. The CD4+ T-cell remodelling toward an inflammatory Th1/Th17 phenotype with more CX3CR1+ T-cells is present both in vivo and in vitro. This immune phenotype likely arises due to modifiable patient factors, and may be a future target of treatment

P-7 - Cardiomyopathya And Added CAPD

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OBJECTIVES

Peritoneal dialysis (PD) can be support to hemoddialysis (HD) in end stage chronic heart failure (CHF) disease and renal failure (CKF), especially when it comes to diuretic therapy and fluid overload. Fluid overload is strong enhancer of CHF. Systemic circulatory stress induced by HD leads to multiorgan morbidity and poor Quality of life (QoL).

METHODS

We analised some HD patients with primar hard CHF. All of them were oligoanuric and volume overloaded. Beacuse of that, to all of them was added one of PD modalitis with HD. In addition to clinical examination, we also used bioimpedance (BI), echocardiography, ultrasonography (US), X-Ray. We noted parameters of intolerancy to HD (hypotension,hypoxemia, cardiac arrhythmias, electrolyte fluxes, crumps). HD frequency was 3x a week 10-13,5 hours with one PD modality (IPD 2-4x a week with glucose solutions 2-3 exchanges per day or extraneal 3x a week, dwel was adjusted individually).

RESULT

After including APD/HD, there were reductions of the effusion, intradialytic hypotension, hypoxia, arrhythmia, syncope, crumps, NT-pro-BNP and also QoL was improved. The lowest ultrafiltration of 500 ml was on extraneal. Ultrafiltration with glucose solutions depended on inflow volume, glucose concentration and dwell (750-1500 ml).
With HD procedures, it probably comes to activation of many mechanisms in CHF: cardiac,
neurohumoral, intestinal and hemodynamic which are intended to be fixed with PD as added modality. Because of impossibility of home HD or nocturnal HD, we decided for this treatment model that turned out to adequate for decrease of HD symptoms such as myocardial stunning, crumps, simptoms related to volume overload, hypoxemia and tissue perfusion. Presumably, after reduced use and reduced

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exposure to dialysate it comes to recovery of the PD membrane and its partial functional response.

CONCLUSIONS

The use of PD with adapted modality in HD free days may be beneficial treatment for fluid status control in CHF. It can reduce hospitalization, morbidity, mortality and improve QoL.

P-8 - Gla Rich Protein As A Marker Of Cardiovascular Risk In A Peritoneal Dialysis Population

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OBJECTIVES

Using a validated sandwich ELISA assay for total Gla Rich Protein forms (tGRP), we explored, for the first time, correlations between serum GRP levels and cardiovascular risk factors in a CKD stage 5 population undergoing peritoneal dialysis (PD).

METHODS

A total of 97 outpatients on a peritoneal dialysis program in a local Hospital unit, were enrolled in a cross-sectional study between 2015-2022. A total of 169 matched controls were included. Serum calcium (Ca), phosphate (P), magnesium (Mg), X-rays of hands and pelvis, pulse pressure (PP) and echocardiogram for determination of relative wall thickness (RTW) and left ventricle mass index (LVMI), were obtained for the PD group. Measurements of tGRP and high-sensitivity C-reactive Protein (hsCRP) were quantified in serum samples of both groups.

RESULT

Pearson's correlation analysis revealed a positive association of tGRP serum levels with Mg (r= 0,344; p<0,01) and a negative correlation with P and Ca (r=-0,848; r=-0,809;p<0,01, respectively). We also observed negative correlations with RWT (r=-0,418;p<0,01), LVMI (r=-0,691;p<0,01), vascular calcification score (VCS) (r= -0,355; p<0,01), pulse pressure (PP) (r=-0,369;p<0,01) and hsCRP (r=-0,322;p<0,01) in the PD group. A total of 30,9 % PD patients presented VCS ≥ 3 (24 males and 6 females) and 37,3 % had PP ≥ 50 mmHg. Regarding echocardiogram analysis, 80,6% of women and 56,2 % of men presented LVMI hypertrophy, and a total of 22,1% had a RWT > 0,42. Independent T-test analysis was used to assess differences of serum tGRP and hsCRP between control and the PD group. We observed a significant decrease in tGRP levels in PD patients (mean=523,95pg/ml) compared to healthy subjects (mean=3103,3pg/ml) p< 0,0001, as well as an increase of the inflammatory status (hsCRP) in the PD cohort (mean=9,46 mg/L vs mean=0,86mg/L, p<0,0001).

CONCLUSIONS

GRP may serve as a novel marker for cardiovascular risk factor in CKD populations.

P-9 - Combined Peritoneal Dialysis And Hemodialysis As Effective Strategy To Maintain Euvolemia In A Pd Patient With Heart Failure And No Residual Renale Function

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OBJECTIVES

Inability to maintain euvolemia is a frequent cause of peritoneal dialysis (DP) drop out, likewise the huge impact of hyperhydration on cardiovascular outcomes is well known. A common strategy to increase ultrafiltration is recurring to hypertonic glucose solution contrary to the proper glucose sparing strategies. Patients on combined PD and hemodialysis therapy (PHD) seem to have a lower mortality compared to those ongoing PD with hypervolemia or to HD drop out ones.

METHODS

Patient data were obtained from medical file. Dialytic adequacy and PET results were obtained from Baxter software PD Adequest™ . Literature review.

RESULT

We describe a 50 y/o male on PD for 4 years developing symptoms of acute pulmonary congestion. A plausible diagnosis of myocarditis with dilatative cardiomyopathy without coronary artery disease was made. Patient had atrial natriuretic peptide (ANP) of 1766 pg/ml, EF

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of 30%; EDVd 65 mm; NYHA class III. He showed appropriate 3,86% PET results (UF at 4th hour 640 ml; DipNa+ -6), nevertheless we experimented great difficulties to obtain euvolemia except with hypertonic glucose (3,86%). Since heart failure had been associated to urinary output reduction patient underwent adequacy test with the finding of inadequate wKt/V (1.43). The patient motivation to continue PD, the presence of a well-functioning distal arterio-venosus fistulae persuaded us to begin a PHD program rather than to drop out the patient. Prescription consisted in a 6 days per week PD program (CCPD with nocturnal 2,27% glucose and diurnal icodextrin) and a unique 4 hours HDF session per week. After 6 months patient recovered a NYHA class I, ANP 432 pg/ml, EF of 46%, EDVd 60 mm, a total wKt/V (PD+HD) of 2,83 with no renal contribution.

CONCLUSIONS

According with literature this case confirms in specific pathophysiological and attitudinal settings a role of PHD as valid therapeutic option alternative to PD drop out.

P-10 - The Impact of Cardio-Renal Syndrome (CRS) in Renal Transplant Recipients: A Systematic Review

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OBJECTIVES

Cardiovascular disease is a major cause of morbidity and mortality in patients with CKD. This risk is increased fivefold in renal transplant patients when compared to an age-matched population. This study aims to explore and focus on the risk factors, management, and outcomes of cardiorenal syndrome in renal transplant recipients and to estimate its deleterious effect on the heart and renal allograft, opening the door for future randomized clinical trials to look at the problem in more depth. The current literature has little information and data on the impact of cardiorenal syndrome on the renal allograft and heart regardless of the specific type of cardiorenal syndrome. Renal transplant recipients can develop any one of the five types of cardiorenal syndrome because of having both conventional and established risk factors for developing CRS. These risk factors particularly the established ones or best described as non-traditional risk factors such as immunosuppressive medications, acute renal allograft rejection, suboptimal renal allograft function, anemia, infections, proteinuria, and hyperparathyroidism are usually neglected after renal transplantation. Although the prevalence of CRS is low among renal transplant recipients, we believe that is due to under diagnosis and lack of clinical trials leading to a knowledge gap in this subject area.

METHODS

The present study conducted a systematic literature review and selected four Clinical trials of CRS in renal transplant recipients for datasets analysis to gain more knowledge about the risk factors contributing to CRS in renal transplant recipients and to produce a strategy to prevent CRS and manage such patients better. Results: This systematic review of the current literature revealed that the presence of non-traditional risk factors post-renal transplantation when combined with traditional risk factors can significantly increase the risk of developing CRS where the prognosis is almost always poor in such patients. The study also showed no difference in the preventive measures and management of CRS between renal transplant recipients and non-renal transplant recipients.

CONCLUSIONS

Renal transplant recipients are at increased risk of developing CRS with poor outcomes compared to non-renal transplant recipients because of the additional non-traditional risk factors post-renal transplantation. However, the preventive measures and management of CRS in renal transplant recipients are like those used for the general population but more attention should be paid to the correction of non-traditional risk factors.

Keywords: Renal transplantation, Cardio renal syndrome, Systematic review, risk factors, Management options, potential outcomes,

P-11 - Changes In Cardiac Structure And Function Using Repeated Echocardiography In Patients Undergoing Peritoneal Dialysis And Waiting For Kidney Transplantation

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OBJECTIVES

Patients with peritoneal dialysis are prone to hyperhydration, which may increase their cardiovascular risk. We aimed to evaluate possible changes in echocardiographic parameters of the PD patients waiting for the kidney transplantation (Tx).

METHODS

The group consisted of 56 stable PD patients (age 57+-13, 33 M), enlisted on the WL for kidney Tx. They were clinically normohydrated, with residual diuresis, controlled blood pressure and adequate PD. We performed 2 echocardiographies in each patient (at the start of

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the PD treatment and after 21+-11 months). Echocardiographic and laboratory parameters were compared between baseline and the end of study period.

RESULT

We found no significant changes in the echocardiographic or laboratory parameters between the 2 measurements, excepting the Relative wall thickness that slightly decreased. The main results were as follows: RWT (0,44 +- 0,1 vs. 0,41 +- 0,1, p 0,04), LVMI in men (111+-34 vs. 103 +- 33 g/m2), LVMI in women (91 +-33 vs. 94 +- 31 g/m2), IVS (10,8 +-2,4 vs. 10,7 +- 2,1 g/m2), LVd (48,9 +-7 vs. 48,6 +- 8 mm), LVs (30,6+-7 vs. 30,5 +- 5 mm, EF (66 +-9 vs. 65 +- 10 %), LA (40 +-6 vs. 39 +- 6 mm), PV (30,5 +- 5 vs. 31 +- 6 mm), Vmax (1,4 +- 0,2 vs. 1,5 +- 0,5 m/s), PGmax (22,2 +- 6 vs. 27,8 +- 10 m/s), VCI diameter (15,8 +-5 vs. 13,4 +- 7 mm)

CONCLUSIONS

In our group of PD patients waiting for kidney Tx, the echocardiographic and laboratory parameters during the median period of 17.5 months did not change significantly. Our results suggest that in the first years of PD treatment, in clinically normohydrated patients, no echocardiographic changes occur and that PD is a safe bridging method to kidney Tx. However, a long-term follow up of echocardiographic parameters during the PD treatment is needed.

P-12 - Significance Of Cha2ds2-Vasc Score In Prediction Of Mortality In Patients Treated With Peritoneal Dialysis

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OBJECTIVES

Dialysis patients represent a group with a high risk of developing life-threatening cardiovascular complications (myocardial infarction, heart failure, coronary occlusive disease, atherosclerotic vascular complications). The aim of this work was to determine and compare the CHADS2 - Vasc score in our patients treated with peritoneal dialysis and hemodialysis.

METHODS

The research included a group of 61 patients (38 treated with peritoneal dialysis (PD) and 23 on hemodialysis (HD). These two groups were homogeneous in terms of average age, gender distribution and years spent on dialysis. With basic biochemical parameters, for each patient we also determined the CHADS2 - Vasc score, according to the established system (2 points for age ≥75 years and a history of stroke, 1 point was assigned for congestive heart failure, hypertension, 65-65 years). 74 years old, diabetes mellitus, female gender and vascular diseases)..

RESULT

PD patients (average age 53.12 ± 14.60) were treated for PD for an average of 47.31 ± 35.39 months, while HD patients (average age 56.30 ± 12.74) were treated with the HD procedure 47.15±34.55 months. CHADS2 - Vasc score for PD patients was 2.58 ± 0.96, and in HD patients it was 2.47 ± 1.20. This difference did not show statistical significance. During follow-up of patients with PD (4-132 months), mortality was 34.2% (13) of patients, while in the group with HD (followed up at an interval of 4-144 months), mortality was 30.4% (7) of patients. Patients with a fatal outcome had an increased CHADS2 - Vasc score: for the PD group: 2.58 ± 0.96 vs. 3.33 ± 0.91, and for the HD group: 2.47 ± 1.20 vs. 2.90 ± 0.81.

CONCLUSIONS

Our results indicate that determining the CHADS2-Vasc score in dialysis patients may be significant in identifying patients at high risk for an adverse outcome

P-13 - CANCELLED

P-14 - Prevalence And Factors Affecting Depression And Anxiety In Patients Undergoing Chronic Peritoneal Dialysis In Nepal – A Cross-Sectional Study

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OBJECTIVES

Patients on peritoneal dialysis (PD) frequently struggle with depression and anxiety. There has been information on a 20% to 50% prevalence of these diseases in PD patients. The quality of life for those with Parkinson's disease (PD) can be significantly impacted by depression and anxiety, which can also raise the danger of complications such peritonitis. Finding the risk variables is crucial because it is unknown how common depression is among PD patients in Nepal. The purpose of this study is to determine the prevalence of these

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mood disorders among PD patients in Nepal and the risk factors related to them.

METHODS

During the study period from January 2023 to May 2023, 42 PD patients were enrolled in this cross-sectional study. The Hospital Anxiety and Depression Scale (HADS) Questionnaire was used during patient interviews to gather sociodemographic data, medical history, and information regarding mood disorders.

RESULT

The mean age of the 42 patients with PD included in this study was 53.71 (5.28) years, with 58.14% of the patients being men. HADS score 8 indicated a prevalence of 54.76% for both anxiety and depression. Sociodemographic characteristics such patient gender (p = 0.61), age (p = 0.41), marital status (p = 0.2) and employment status (p = 0.27), as well as marriage and employment status, had no discernible impact on the prevalence of mood disorders. On the prevalence of depression and anxiety among the patients, education level has a statistically favourable effect (p=0.03). Patients with a longer PD vintage had a statistically significant higher prevalence of depression and anxiety (p 0.01). Although diabetes patients had a higher frequency of mood disorders than nondiabetic patients (p 0.01), neither hypertension nor hypothyroidism substantially increased the prevalence of mood disorders among PD patients (p = 0.25 and p = 0.43, respectively).

CONCLUSIONS

Depression and anxiety are very common among PD patients in Nepal. Diabetic patients and undereducated patients are at higher risk of these mood disorders. Patients on PD seem to develop depression and anxiety over time. Appropriate programs to target these groups of patients may reduce the prevalence of depression and anxiety among PD patients and improve quality of life of these patients.

P-15 - A Five Year Experience In Patient With Encapsulating Peritoneal Sclerosis

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OBJECTIVES

Encapsulating peritoneal sclerosis (EPS) is rare, though very serious complication of peritoneal dialysis. Pathophysiology mechanism is not completely clear.

METHODS

The study shows treatment course for the 29-year old patient, who acquired EPS after 7 years of peritoneal dialysis.
The patient developed terminal renal insufficiency at the age of 17, in the field of Membranoproliferative Glomerulonephritis, that had been diagnosed 3 years earlier.
During the seven years long treatment with PD, the patient has had 20 hospital admissions in total-the significant number associated with subdialysis and CAPD peritonitis, as well as heavy prolonged menstrual bleeding, with severe anemia and constipation.
As a result of patient's noncompliance and its implications there was acquired decline in ultrafiltration,it was decided to transfer her to the hemodialysis module.The planned catheter extirpation was complicated by the occurrence of ileus, thereafter the abdominal MSCT was performed, but its etiology wasn't defined.
NMR imaging of the abdomen and small pelvis showed cystic formations in the abdomen, in the projection of the right ovary and liver, therefore surgical treatment was suggested.
Positive intraoperative verification of fibrous encapsulating formations has given pathohistology report that confirmed EPS.

RESULT

The treatment that followed included Tamoxifen (administered during the next 2 years) and steroids, gradually reducing the dose to 5mg of Prednisone on every other day. MSCT
follow-ups were performed every 6 months initially, afterwards the follow-ups occurred once a year, with the stand-by period during the COVID 19 pandemic, after which two more MSCT were performed that revealed no changes in EPS.

CONCLUSIONS

Early detection and timely diagnosis combined with the operative and medicamental treatment are crucial for the positive outcome.
Based on our report, the questions remains if NMR could become a protocol method for diagnosis of EPS?

P-16 - Predicting Technique Failure In Peritoneal Dialysis Patients: A Multicentre Study Using Artificial Intelligence

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OBJECTIVES

Early technique failure has significantly limited the broader adoption of peritoneal dialysis (PD). The objectives of this study were to use data from extensive, multicentre data to determine the ability of an artificial neural network model to predict early PD technique failure.

METHODS

All Peritoneal dialysis patients who suffered from technique failure in four large centers in the UK were retrospectively reviewed. Early technique failure was defined as a change in dialysis modality to hemodialysis within six months from the start of PD. Data about patient demographics (age, gender weight, co-morbidities), urine output, and serum blood tests (hemoglobin, C-reactive proteins, creatinine, albumin) were collected at the start of PD. Decision-based models were used to predict early technique failure.

RESULT

447 PD patients were included in the study. Number of patients who had early technique failure was 248 (55%). XGBOOST models showed the best performance for prediction of outcome with AUC=0.79. The classification error was 0.03. Variable importance score showed that urine output was the most crucial variable in the forecast (VIS=0.33), followed by coronary artery disease (VIS=0.17) and C reactive protein (VIS=0.09).

CONCLUSIONS

Artificial intelligence models can accurately predict early technique failure among PD patients. Early prediction of technique failure can help allocate resources and optimize patient care. Urine output, coronary artery disease, and degree of inflammation (C reactive protein) are critical players in predicting the potential technique failure. More studies with larger sample sizes are needed to confirm our results.

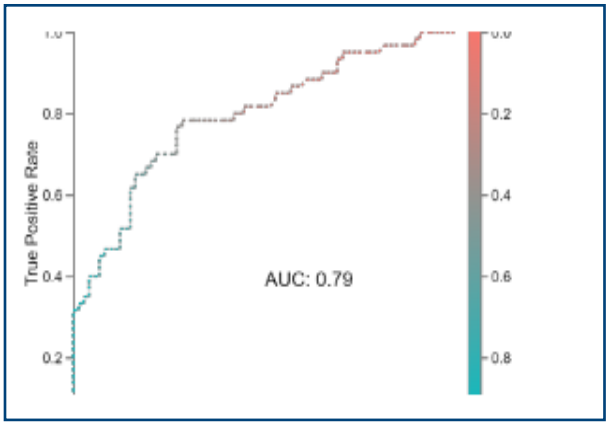

Figure 1: AUC curve for measuring predictive power of our model

P-17 - The Use Of Routine Home Education Visits For All Low-Clearance Patients To Increase Access To And Uptake Of Home Therapies

Jennifer Allen[1], *Charlotte Bebb*[1], *Pippa Law*[1], *Vanessa Watkins*[1]

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OBJECTIVES

Home therapies (peritoneal dialysis (PD) and home haemodialysis (HHD) should be offered to all patients starting dialysis. Despite this, numbers of patients receiving home therapies have fallen consistently. We identified a low-clearance home visit as an opportunity to offer home therapies as a modality choice for all patients. We assessed the impact of our intervention by monitoring prevalence of home therapies.

METHODS

We undertook a consultation process to identify areas where quality improvement interventions may increase access to home therapies. We offered an early home visit to all low-clearance patients. The visit was used to discuss all RRT options. We analysed our renal database to assess impact on prevalence.

RESULT

In 2018 112 low-clearance home visits took place. Following the change to the low-clearance pathway, numbers of home visits almost doubled, with a small decrease during the COVID pandemic. In 2018, the number of patients receiving home therapies in our centre was 8.9% total RRT population and 23.2% total dialysis population. During implementation in 2019 the number of patients receiving home therapies remained static at 8.7% RRT population and 22.7% dialysis population. By end 2022 uptake of home therapies had grown to 10.6% RRT population and 25.5% dialysis population.

CONCLUSIONS

Our centre saw an increase of 16.5% in patients receiving home therapies from 2019 to 2022, with the proportion of the dialysis population on home therapies increasing by 2.8% following the introduction home visits for all patients. The number of home visits almost doubled from 2018 to 2019/20. The change to our low-clearance pathway ensured that all patients received equitable access to home therapies and significantly increased uptake, particularly to peritoneal dialysis. Our experience supports the widespread use of educational home visits for all low-clearance patients.

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P-18 - A Rare Case Of Peritoneal Dialysis Catheter Displacement Into The Inguinal Hernia Sac

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OBJECTIVES

Describe the clinical presentation, diagnostic workup, and successful resolution of peritoneal dialysis (PD) catheter dysfunction due to the migration of the PD catheter into the inguinal hernia sac.

METHODS

An 83-year-old male with a history of hypertension, type 2 diabetes, BPH, and end-stage kidney disease on PD who started developing issues with slow draining from PD a few months after dialysis initiation. The catheter had been placed laparoscopically with no complications. Initially, the draining issues improved with positional changes, mainly lying on his left side, moving his legs, and standing. An abdominal X-ray was obtained, which showed a high stool burden, and he was placed on a bowel regimen. A few months later, he continued to have draining problems despite the resolution of constipation. A repeat abdominal x-ray showed the tip of the catheter, possibly in the left inguinal hernia. A CT of the abdomen confirmed the X-ray results.

RESULT

This imaging finding was thought to explain the poor drainage. Given the impact on the patient's quality of life and his wish to continue PD, the decision was to proceed with hernia repair. The patient underwent open hernia repair with mesh using the Lichtenstein technique, and the postoperative course was uneventful except for urinary retention. Eventually, the patient experienced improved drainage and was able to continue PD after surgery.

CONCLUSIONS

We present a rare case of PD catheter malfunction due to intermittent migration into a left inguinal hernia sac. The diagnosis was challenging but possible via repeat imaging and consultation with radiology and surgery. This led to successful treatment, which ensured the continuation of PD. Clinicians should remain mindful of uncommon mechanical complications of PD catheters, as early diagnosis and treatment can prevent complications and increase technique survival.

P-19 - The Role Of Ultrasound In Peritoneal Dialysis-Advantages, Diagnostic,Limitations.

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OBJECTIVES

Peritoneal dialysis remains an important method of renal replacement therapy, which involves a complex approach of the patient and a permanent adaptation of the treatment to the patient's needs. We live in a technological era and that's why ultrasound has become an essential, easy to use, repeatable, not aggressive tool with a high diagnostic value. Ultrasound is an important tool in preparing, evaluating and monitoring peritoneal dialysis patients. Ultrasound evaluation of patients is useful for preoperative assessment for the peritoneal catheter placement, for the catheter functionality evaluation and for detection and monitoring of infections.

METHODS

We used portable ultrasound machine,a sonobook 8 and both transducter abdominal and for soft tissue,for a better evaluation for all causes.

RESULT

-paratiroid evaluation by ultrasound has offered the confirmation of paratiroid adenoma wich correlates high PTH level -abdominal ultrasound genuilly gave the possibility to evaluate the thickness of the peritoneum,monitorize the peritonitis evolution,to predict the membtrane insuficiency -tunelitis are easily to be diagnosed and to monitorize evolution under treatment.

CONCLUSIONS

In conclusion, ultrasound is a cost and time-saving procedure, an easy to use, repeatable, non-invasive bedside tool, useful for clinical evaluation in the field of peritoneal dialysis.

P-20 - Congestion Biomarkers: Carbohydrate Antigen 125 (Ca125) And Natriuretic Peptides In Peritoneal Dialysis

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OBJECTIVES

Brain natriuretic peptide and N-terminal proBNP (NT-proBNP) are a widely used biomarkers in heart failure (HF) that mainly measures vascular redistribution, and more recently Ca125 is being valued as a marker of volume overload and tissue congestion. It is known that its levels could be increased in chronic kidney disease and there are few studies conducted in patients with renal replacement therapy.

Our objective was to analyze the values of congestion biomarkers in peritoneal dialysis patients and their possible relationship with clinical parameters or dialysis technique.

METHODS

46 stable peritoneal dialysis patients (20 female/26 male). Mean age 66.5 years. 59% with diabetes. 65% with diagnosed HF. 35% had suffered cardiovascular events. Icodextrin used in 87%. Ca 125 and NT-proBNP levels and their relationship with variables such as age, sex, HF, DM, CV event, residual diuresis volume, daily ultrafiltration (dUF) and icodextrin use, were analyzed for 6 months.

RESULT

- Mean Ca125 values: 34.6 (6-173) U/ml; NT-proBNP: 7025 (143-93100) pg/ml. Mean residual diuresis: 1357 ml/24h; dUF: 738 ml/day.
- Linear regression shows no significant relationship between Ca125/NT-proBNP levels.
- An inverse relationship was observed between Ca125 levels and diuresis (p=0.008) and dUF (p=0.049). However, NT-proBNP levels were not significantly related to diuresis or dUF.
- Sex, age, diabetes and having developed a CV event were not significantly related to higher Ca125 or NT-proBNP levels.
- Diagnosed HF was related to higher Ca125 (p=0.035) and NT-proBNP (p=0.000).
- The use of icodextrin was associated with ProBNP levels higher than 900 pg/ml (p=0.04).

CONCLUSIONS

In these peritoneal dialysis patients, higher diuresis and higher dUF are associated with lower Ca125 levels, which could indicate less volume overload and tissue congestion in these conditions. NT-proBNP levels would be more related to pre-existing HF and vascular redistribution as in the general population.

P-21 - Caregivers During Assisted Peritoneal Dialysis (Pd) – A Nurse's Survey From The French Pd Registry

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OBJECTIVES

Providing support to non-autonomous PD patients through caregivers (liberal nurses or family members) is presumed to improve clinical outcomes. Even if knowledge about caregivers in the French PD registry (RDPLF) is significant through several publications, the opinion of referent nurses is less known. This survey aims to better understand the role of caregivers during PD patient support and their relationship with referent nurses (RN) and PD patients.

METHODS

A survey was conducted through a mailing list dedicated to home dialysis between March and April 2022 with a questionnaire sent to RN of French dialysis centers. RN had a close relationship with caregivers and therefore provided accurate answers. The questionnaire distinguished caregivers into liberal nurses and family members and covers several domains (intensity and type of support, satisfaction of stakeholders, aspects related to financial compensation, obstacles to the recruitment of caregivers…).

RESULT

The questionnaire was sent to 87 centers and 32 of them responded to the survey. Globally there is a good level of PD patient satisfaction towards caregivers. We obtain data such as (1) "Higher level of support with liberal nurses", (2) more actions taken by caregivers during CAPD (vs APD), and (3) satisfaction from family members support higher versus liberal nurses' support. There were large differences between centers regarding social and financial support for PD patients. The barriers to the recruitment of caregivers are important and mainly related to the burden of the disease and the complexity of the treatment.

CONCLUSIONS

In this survey, patient support varies according to patients' profiles, PD modality, and categories of dialysis centers. This survey should be completed with the direct assessment of the caregivers and/or the assisted PD patients.

P-22 - CANCELLED

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P-23 - Navigating Early Peritoneal Dialysis Dropout- Creating A Resilient Path Forward.

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OBJECTIVES

Peritoneal dialysis (PD) is widely used and an effective treatment modality for patients with end-stage renal disease (ESRD). Despite its benefits, early dropout from PD remains a concerning issue. We looked the factors contributing to early PD dropout at our centre and propose strategies to address and mitigate this problem. Premature discontinuation of PD poses significant challenges for both patients and healthcare providers. Understanding the factors leading to early dropout is crucial to design effective interventions.

METHODS

We looked at 90 day PD dropout (ED) in patients starting PD between 2017 -2019 at our centre and analysed demographic information, clinical characteristics, and reasons for discontinuation.

RESULT

123 patients started PD in the time period. ED in our patient population was 15% - most of these patients had experienced issues with poor flow or catheter dysfunction but several factors were seen to contribute to early dropout on peritoneal dialysis, including inadequate patient education and training, fear of complications, catheter-related issues, inadequate support and socioeconomic factors

CONCLUSIONS

Addressing Early Dropout is complex and requires a multifaceted approach. Enhanced Patient Education: Implementing comprehensive and tailored patient education programs is essential. This involves providing detailed going information about potential complications, and strategies to manage common issues. Psychological Support: Recognizing the emotional toll of PD on patients, integrating psychological support services is vital. Offering counselling and support groups can help patients cope with the challenges of self-management and empower them to maintain confidence in their ability to continue with PD. Remote Monitoring: Implementing a structured follow-up system with remote assessments can help identify potential issues early on. Regular monitoring allows detection of complications and addresses concerns promptly, thereby reducing the likelihood of early dropout. Ensuring that patients receive the necessary support and resources

P-24 - Use Of Silver Nitrate Dressing In Peritoneal Dialysis Patient

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OBJECTIVES

Peritoneal dialysis (PD) is a widely used modality for renal replacement therapy for the management of end stage renal disease. Infections related to Tenckhoff catheter exit sites and tunnel infections are the main complications in PD, which also increase the risk of peritonitis, need for catheter removal/exchange or transition to haemodialysis. Each of these complications are significant events for patients and can seriously affect their overall wellbeing. In recent years, evidence is growing to support the use of silver nitrate dressings for patient on PD. Silver nitrate dressings are absorbent dressings with quick and lasting antibacterial properties. The purpose of this poster is to explore the efficacy of silver nitrate dressings in the management of patients with tenckhoff exit infections and granuloma.

METHODS

Our unit conducted a case study of a patient aged 26 on automated peritoneal dialysis with multiple positive swab results from their catheter exit site alongside some exudate around the catheter. The EMODIAL Exit-pad AG was used at the exit site and dressing was left intact for 72 hours as advised by the manufacturer. They attended our clinic twice a week for dressing review, re-swabbing, monitoring and renewal. Progress pictures were taken with informed consent.

RESULT

Comparing pictures throughout the patients' appointments showed definite improvement in exudate and redness throughout the process. The exit site showed consistent healing at each renewal. The patient reported less itching and nil pain throughout the dressing application. The home therapy team were all in unison that the silver nitrate dressing proved beneficial in clearing up the redness and exudate surrounding this patient's exit site.

CONCLUSIONS

Silver nitrate dressings can be an effective dressing for patients on peritoneal dialysis where the exit site is not intact or there is a risk/ visible signs of infection. The use of these dressings can promote skin integrity, manage exit site infections and to reduce the incidence of

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exit site infections than can lead to further PD complications. Silver nitrate dressings should be considered to treat exit site complications and can prevent infections and can result in faster healing which maintains/improves patients over all well-being.

P-25 - Association Of Serum Ca-125 And Lung Ultrasound With Other Markers Of Volumen Status In Peritoneal Dialysis Patients

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OBJECTIVES

Volume overload (VO) represents the main risk factor for cardiovascular death in peritoneal dialysis (PD) patients. The use of lung ultrasound and serum CA-125 (SeCA-135), has emerged to assess volume in heart failure patients. In this pilot study, we explored the association of these novel approaches with classical markers of VO.

METHODS

A cross-sectional cohort study was conducted on twelve PD outpatients, in which volume status was simultaneously assessed through seCA-125 levels along with standardized 28-site lung ultrasound, VExUS Score (excluding renal Doppler), NT-proBNP levels and bioimpedance spectroscopy (BIS)

RESULT

The mean age was 62 ± 15.89 years, with an average of 21.59 ± 28.24 months on dialysis, and a mean residual diuresis of 1.32 ± 0.89 liters. Only 8.3% of the patients presented dyspnea, 15.7% had pulmonary crackles, and 40% had peripheral edema. Mean ECW/TBW was 0.49 ± 0.03 and overhydration by BIS was 1.13 ± 1.51 L. The mean number of B-lines was 9.33 ± 6.87 and Se-CA-125 was 18.5 ± 7.46 IU/mL.

Patients with overhydration by BIS (> 7.5% OH/TBW) showed more B-lines (14.60 ± 5.55 vs. 5.57 ± 5.08, $p < 0.05$). SeCA125 was positively associated with left atrial volume ($r = 0.821$, $p = 0.006$), estimated PASP ($r = 0.917$, $p = 0.017$), and negatively correlated with TAPSE ($r = -0.721$, $p = 0.02$). The number of B-lines nearly reached a significant correlation with Se-CA-125 ($r = 0.52$, $p = 0.07$). There was no correlation between the number of B-lines and Se-CA-125 with the diameter of the IVC, VExUs parameters, ECW/TBW ratio, NT-proBNP levels or renal residual.

CONCLUSIONS

The number of B-lines in lung ultrasound can detect VO earlier compared to BIS. SeCA-125 levels are sensitive to changes in the echocardiogram. The use of both methods can help us detect hidden Vo in PD.

P-26 - Satisfactory Peritoneal Dialysis Over A Period Of More Than 05 Years (Experience Of The Nephrology Department Of Tlemcen University Hospital)

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OBJECTIVES

Peritoneal dialysis (PD) is a method of renal replacement with proven efficacy. The improvement of techniques (connection systems, automated PD cyclers, use of osmotic agents other than glucose) has made it possible to extend its duration. The aim of this study is to report our experience, by enumerating the conditions which have contributed to the success of the method over a period of more than 05 years.
Key words: peritoneal dialysis (PD), residual renal function (RRF), end-stage renal disease (ESRD), peritonitis.

METHODS

We conducted a retrospective study of 18 patients treated with PD over a period of more than 05 years. Demographic parameters were studied (gender, age, socioeconomic level, professional activity), technical parameters: exchange modality (continuous ambulatory peritoneal dialysis CAPD/automated peritoneal dialysis APD), clinical parameters: co-morbidities, residual renal function, patient autonomy, and the occurrence of complications related to PD, particularly infectious complications.

RESULT

The mean age is 43.8 years (18 to 87), 1H/2F, with a sex ratio of 0.5, the mean duration in PD is 6.2 years (5.1 - 10.3), of these, 05 patients have been on dialysis for more than 08 years . The socioeconomic level is good for the majority of patients. 22% have a professional

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activity and 11% have an educational activity. One patient is in DPA and 17 in CAPD. The average Charlson score is 3 (2-5), 22% of patients are hypertensive, 11% are diabetic. Residual renal function is maintained (greater than 1L / 24h) in 80% of patients and 20% are oliguric. All our patients are autonomous. The rate of peritonitis is estimated at one episode/38 months patients, we noted 03 episodes of peritonitis in 05 patients, 02 episodes in 05 patients, 01 episode in 05 patients and 03 patients never experienced peritonitis. No mechanical complications occurred. The duration of dialysis is clearly influenced by FRR, autonomy and absence of peritonitis

CONCLUSIONS

A satisfactory peritoneal dialysis is possible beyond 05 years, patient autonomy, maintenance of FRR and prevention of peritonitis are the key to the success of this method.

P-27 - How Incremental Peritoneal Dialysis Impact On Quality Of Life? DIALYSIX Study Initial Results.

Samuel Blas Gómez[1], *Rocio González Cano*[1], *Iván García Alfaro*[1], *Juan Pérez Martínez*[1], *Agustín Ortega Cerrato*[1], *Francisco Javier Centellas Pérez*[1], *Sara Piqueras Sanchez*[1], *Isabel Montesinos Navarro*[1], *María Delfina Calero García*[1], *Encarnación Bellón Pérez*[1], *Pilar Escribano Cuerda*[1]

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OBJECTIVES

Incremental PD involves a lower regimen than the standard one. In our unit, patients initiate PD with the standard dose, however, we pretend here to evaluate the variation in dialytic efficacy and quality of life in patients who reduce their therapy to 6 days per week.

METHODS

This prospective observational study evaluates the variation in analytical parameters and
quality of life in patients from our center with Kt/V more than 2, residual diuresis more than 1L/day and in range analytical data, who reduce their therapy to 6 days per week. We collect analytical data like urea, creatinine, and others before and after the change, every two months, and examine differences in the medical treatment of calcium-phosphorus metabolism, hyperkalemia, anemia, and hypertension. Quality of life is assessed using the EuroQoL questionnaire before and after the change, as well as variations in specific areas not included in this questionnaire, such as social or family life.

RESULT

We present preliminary results from 10 patients (20% females and 80% males) with a mean
age of 57 years (SD 18.47) and an average comorbidity score of 6.7 points (SD 3.43) according to the Charlson Index. Wilcoxon test did not reveal significant differences between the evaluated analytical parameters before and after the change in the regimen maintaining the same medical treatment without variations. None of them experienced subsequent peritonitis or other complications or admissions. However, statistically significant differences (p=0.007) were observed in quality of life measured by EuroQoL. Furthermore, 70% of the patients improved their social and family life, and 80% devoted more time to other activities such as sports.

CONCLUSIONS

As our results seem to support, the reduction of one day of treatment in selected patients
does not appear to adversely affect their clinical and analytical variables, but it significantly
impacts their quality life with associated benefits.

P-28 - Sodium-Glucose Cotransporter-2 Inhibitors In A Patient With End-Stage Heart Failure Treated By High-Dose Diuretics And Peritoneal Ultrafiltration: A Case Report.

Silvio Borrelli[1], *Luca De Nicola*[2], *Pavlo Yavorskiy*[3], *Andrea Foderini*[4], *Federica Capozzi*[5], *Chiara Ruotolo*[6], *Fatme Merheb*[7], *Aldo Franculli*[8], *ProfRoberto Minutolo*[9], *Carlo Garofalo*[10]

Nephrology Unit University of Campania «Luigi Vanvitelli»

OBJECTIVES

Sodium-glucose cotransporter-2 inhibitors (SGLT2i) have been proposed to treat chronic heart failure (CHF) in patients with non-dialytic chronic kidney disease (CKD). However, no data are available in patient treated with peritoneal dialysis (PD).

METHODS

A case-report study.

RESULT

A 69-year-old male patient with insulin-dependent diabetes mellitus and CHF (EF:15-20%) was referred to the Nephrology clinic because

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of CKD stage-4 and edema. He complained of severe dyspnea at rest, making him unable to walk and carry on any physical activity. Six months before the nephrology visit, the patient had been admitted four times to the emergency department because of acute heart failure episodes. At baseline, blood pressure was 80/60 mmHg, with significant ascites and lower legs edema despite high-dose diuretics (furosemide 500mg/day, spironolactone 50mg/day, and metolazone 5mg/day), bisoprolol 2.5mg/day and sacubitril48mg-valsartan52mg/day. Due to persistent severe congestive status unresponsive to diuretics, we planned urgent PD to start ultrafiltration by continuous ambulatory PD (single-dwell icodextrin/day). In the next two weeks of PD, we observed a substantial improvement in symptoms associated with body weight loss of 12 kilograms. This allowed the gradual reduction of diuretics and the switch from icodextrin to glucose 1.5% dwell. Despite using glucose 1.36% PD solution, we still observed an effluent of about 500 ml/day at the start of the daily PD session due to cardiac ascites production. Dapagliflozin 10 mg/day was added to improve heart function further. After the first two weeks of treatment, the ascites decreased gradually until the complete resolution. No hospitalization occurred over the subsequent 15-month follow-up.

CONCLUSIONS

This case report shows the beneficial effects of optimization of cardioprotective therapy by add-on SGLT2i on top of a low dose of PD in a diabetic patient with severe congestive cardiorenal disease unresponsive to diuretics. The patient improved his symptomatology significantly with no need for hospitalizations in the following 15 months.

P-29 - Changing Pattern Of Mineral And Bone Disorder In Peritoneal Dialysis

Hanen Chaker[1,2], *Ghada Zaghdoud*[1], *Najla Dammak*[1,2], *Aida El Euch*[3], *Salma Toumi*[1,2], *Fatma Mseddi*[1], *Soumaya Yaich*[1,2], *Khawla Kammoun*[1,2], *Fatma Ayadi*[3], *Mohamed Ben Hmida*[1,2]

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OBJECTIVES

Disorders of mineral and bone metabolism are common in the dialysis population. Unlike hemodialysis, the most common mineral and bone disorder(MBD) found in peritoneal dialysis(PD) is adynamic osteopathy rather than secondary hyperparathyroidism. The objective of our study is to determine the prevalence of the different MBD in peritoneal dialysis.

METHODS

It's a retrospective study including patients treated by PD from January 2010 to June 2022. We divided our population into 3 groups: group 1 with hyperparathyroidism defined (according to KDIGO recommendations) by a parathyroid hormone(PTH) ≥450pg/mL ; group 2 with normal range PTH; group 3 with hypoparathyroidism defined by a PTH<100pg/ml.

RESULT

Our study included 39 patients. The mean age was 55.61years (13-84years) with a sex ratio of 1.78. Group 1 included 13 patients (33.3%) with a mean age of 43.62years (23-61years),mean PTH was 1285pg/ml (468-3562pg/ml), mean calcemia was 2.3mmol/l (2.1-2.57mmol/l),mean phosphorus was 1.86mmol/l (1.2-2.9mmol/l). Group 2 consisted of 20patients (48.7%) with a mean age of 52.35years (27-84years), mean PTH was 246.58 pg/ml (105-417pg/ml), mean calcemia was 2.19mmol (1.57-2.55mmol/l), mean phosphoremia was 1.62mmol/l (1.2-2.5mmol/l). Group 3 consisted of 7patients (17.9%) with a mean age of 60.57years (36 -84years),mean PTH was 38.68pg/ml (10-99pg/ml), mean calcemia is 2.44mmol/l (2.29-2.8mmol/l),mean phosphoremia is 1.3mmol/l (0.93-1.67mmol/l). Patients in group 3 were older, had higher blood calcium levels, but the difference was not significant. All patients in group 3 (except 1) were discharged before 2019 (date of the national change in dialysate calcium concentration from 1.75mmol/l to 1.25mmol/l).

CONCLUSIONS

Adynamic osteopathy is predominant in PD in some series in the literature. In our series, it represents less than 20%, while hyperparathyroidism is increasing with uncharacteristically high values. Through this work, we underline the necessity of personalizing the calcium concentration of the dialysate in PD, especially since compliance with oral calcium is poor.

P-30 - Peritoneal Dialysis: Factors Associated With Technique Survival

Hanen Chaker[1,2], *Ghada Zaghdoud*[1], *Najla Dammak*[1,2], *Yosra Mejdoub*[3], *Salma Toumi*[1,2], *Fatma Mseddi*[1], *Soumaya Yaich*[1,2], *Khawla Kammoun*[1,2], *Sourour Yaich*[3], *Mohamed Ben Hmida*[1,2]

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OBJECTIVES

Peritoneal dialysis (PD) is a renal replacement therapy that offers maximum autonomy for the patient with end-stage renal disease (ESRD). However, it is a time-limited technique. The objective of our work is to investigate the factors associated with technique survival.

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METHODS

This is a retrospective study carried out in the PD unit of the Nephrology Department of the Hedi Chaker University Hospital in Sfax, including all patients with chronic kidney disease who were treated by PD from January 2010 to June 2022 and for whom the clinical and biological data and evolution were available.

RESULT

Our study included 73 patients. The mean age was 49.54 ± 17 years (17-84 years) with a sex ratio (M/F) of 1.5. The comorbidities noted were arterial hypertension, dyslipidemia, diabetes, and heart disease in 74.6%, 27.8%, 9.7%, and 5.6% of cases, respectively. The PD modality was continuous ambulatory peritoneal dialysis (CAPD) in 56.5% of cases; automated peritoneal dialysis (APD) in 27.5% and continuous cyclic peritoneal dialysis (CCPD) in 15.9%. Among the 73 patients, 41 were discharged from PD after a mean duration of 47.8±32.8months (2 to 138 months), and this was because of death in 28.6%, renal transplantation in 11.9% and transfer to hemodialysis in 59.5%. The mean ultrafiltration (UF) in our patients was 827 ml/24h±376.64 (0 to 2000ml/24h). An UF higher than 700 ml/24h was associated with a better survival of the technique with a mean duration of 53.8 ± 30 months versus 38.5 ± 34.5 months (p=0.05).However, we did not find any association between the technique survival and gender, PD modality, malnutrition, diabetes and the occurrence of peritonitis.

CONCLUSIONS

Our study confirmed the importance of ultrafiltration as a parameter conditioning the technique survival. Although residual diuresis and the absence of peritonitis are factors favoring the longevity of the technique, ultrafiltration remains the cornerstone of adequate peritoneal dialysis.

P-31 - Factors Influencing Renal Replacement Therapy Modality Choice From The Nephrologist's Perspective

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OBJECTIVES

Home based dialysis including peritoneal dialysis (PD) can offer greater quality of life and empowerment for persons with end-stage kidney disease (ESKD). Nevertheless, there is still a low prevalence for PD in Belgium, as in most of Europe in general. Many factors have been pinpointed as underlying reasons, such as reimbursement, patient mix and late referral. However, so far no one size fits all solution to increase uptake of PD has been implemented.
We aimed to understand the nephrologist's perspective, their beliefs, and experiences on the decision process of dialysis modality selection to clarify broad underlying process-level and intrinsic motivations steering the final decision.

METHODS

Using purposeful sampling, Belgian nephrologists (academic vs non-academic, geographical spread, age, gender) were selected. We conducted semi-structured interviews with open-ended questions. Interviews were audiotaped and transcribed verbatim. Meaningful units were grouped into subthemes and themes by two authors and triangulated with all authors. Then, a conceptual framework was developed with all authors. A thematic approach based on grounded theory according to Charmaz was used as guidance. The study was approved by the Ethics Committee of the University Hospital Gent.

RESULT

In total, 29 nephrologists (10 from Wallonia, 3 from Brussels and 16 from Flanders; 10 younger than 40 years, 10 between 40 and 50, and 9 older than 50 years; 14 males; 23 non-academic) were interviewed. We identified 4 main themes related to the pre-dialysis and the modality shared-decision process: Trust and belief (in PD as a technique; own expertise, knowledge and team; in behavior of patient, family or nurse caregiver), feeling of control (paternalism; insecurity; prejudice on medical factors for (not) choosing PD or home techniques), vision of care and approach (true shared decision making; troubleshooting attitude; flexibility and creativity; complacency) and organizational issues (organization of pre-dialysis and access team, financial incentives and availability of assisted PD).

CONCLUSIONS

Based on these interviews of a variety of Belgian nephrologists, it is apparent that beyond to already identified singular issues such as late referral, poor predialysis education and reimbursement, lack of dedicated team and PD catheter access issues also other, more complex factors impact uptake of PD within the nephrologist community. These factors relate both to process-level topics as to attitudes and culture of the nephrologist and the culture within the team.

P-32 - The Four 'W' To Take Home. A Simple, But Exhaustive Guide For A Correct CKD-Therapy Choice

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OBJECTIVES

Criteria for starting dialysis in patients with AKI and CKD are similar, since both conditions involve the kidneys' inability to filter waste adequately, even with medical therapy. It should be noted that ESKD is a pathology whose treatment involves a disruption of a person's life habits, more so if he were to continue with In Center Home Dialysis (ICHD), less so if with Home Dialysis (HD).

METHODS

Timing of acute and chronic dialysis is critical. If dialysis is started too late, it can lead to complications such as HF, stroke and death. However, if dialysis is started too early, it can also be harmful. Optimal timing is still being studied. Acute dialysis is started sooner than chronic dialysis. The specific timing of dialysis will vary depending on the patient's condition.

RESULT

ICHD should be reserved for cases of hemodynamic instability, ARF, no caregiver, or according to the patient's wishes. HD should be used in cases of clinical and social feasibility.

CONCLUSIONS

Which...Home Dialysis Modality:

Peritoneal Dialysis (PD): The most frequent method of home care for ESKD, but not sufficiently used, with wide variability between regions and centers.

Home hemodialysis (HDD): Allows for home treatment self-management (caregiver present). Requires specific equipment. Treatments are daily, lasting about 2.5-3 hours each for 4-5 days/week.
Assisted home hemodialysis (HDDA): Allows patients to perform treatment at home with nurse assistance. The equipment used is the one in use in hospitals with 3 weekly treatments of 3.5-4 hours each. This method also allows patients without a caregiver.

Video-assisted-PD (PDVA): provides for temporary employment at patient' home with a video camera in order to remotely control and assist him during the procedure, thus allowing a nurse to intervene remotely in case of need or in case patient asks for feedback. It's particularly useful for home PD training.

P-33 - Drop-Out In Peritoneal Dialysis: What Went Wrong?

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OBJECTIVES

To identify modifiable causes and risk or protective factors for early drop-out in PD.

METHODS

Retrospective analysis of 139 patients that underwent PD between 1st January 2012 and 31st May 2023 in a tertiary center. Early drop-out from PD was defined as PD withdrawal in the first 6 months.

RESULT

We analyzed 139 patients. The majority was male (54.7%) and Caucasian (79.9%), mean age of 45.2 ± 17.9 years. Mean time on PD was 2.6±2.1 years. At beginning of PD, initial dose was 8.3±2.3L, urinary output (UO) was 1.3 ±0.8 L and Kt/V at 2 months 2.3 ±0.6. Drop-out to HD occurred in 60.4% (n=84), due to renal transplantation in 30.2% (n=42), renal recovery in 2.2%, and due to death in 7.2%. Main causes for drop-out to HD were underdialysis (n=14, 16.7%), DP related peritonitis (n=13, 15.5%), tunnel infection (n=11, 13.1%) and volume overload (n=7, 8.3%). Early drop-out occurred in 13.7% (n=19), and this group of patients was more frequently hypertensive, with history of previous HD, VA end-stage failure, had lower hemoglobin, lower Kt/V at 2 and at 6 months, lower UO and lower PD dose at beginning and at 6 months. In a multivariate analysis, initial PD dose was a protective factor (6.9 ±1.9L vs. 8.4 ±2.3L, p=0.02, djusted OR 0.48 [95%CI 0.01-0.99]) and VA end-stage failure as reason for starting PD was a risk factor for early drop-out (31.6% vs.14.7%, p=0.02, adjusted OR 21.6 [95%CI 0.01-0.99]).

CONCLUSIONS

Peritoneal dialysis is an RRT with several advantages over HD, so it is crucial to identify ways of preventing early withdrawal. In our study, the main causes for PD transition to HD were underdialysis, PD related infections and volume overload. Higher initial PD dose

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was a protective factor, and initiating PD due to VA complications was a risk factor for early drop-out from PD.

P-34 - Subclinical Hypervolemia in Peritoneal Dialysis Patients – The Role of Ultrasonography

Joana Dias[1], *Vitoria Paes de Faria*[2], *Daniela Lopes*[3], *Rute Carmo*[4], *Joao Carlos Fernandes*[5], *Clara Almeida*[6], *Ana Marta Gomes*[7]

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OBJECTIVES

Subclinical volume overload in peritoneal dialysis patients (PDP) is an issue of paramount importance. This study aims to assess the usage of combined Inferior Vena Cava Collapsibility Index (IVCCI) and Lung Ultrasound (LUS) in PDP to predict subclinical volume overload.

METHODS

We performed LUS and IVCCI evaluation on PDP during routine visits. Patients with clinical evidence of volume overload were excluded. Patients who exhibited ≥3 B-lines in ≥2 bilateral lung zones and IVCCI <50% were considered to have volume overload.

RESULT

Data from 22 patients were collected, six patients were excluded. Among the remaining patients, eight (50%) had subclinical hypervolemia. These patients showed a higher overhydration/extracellular water ratio (rOH) (p=0.007), elevated serum N-terminal brain natriuretic peptide (NT-proBNP) level (p=0.046), and lower renal residual function (RRF) (p=0.028). However, no significant differences were observed in other parameters (as shown in Table 1). Notably, there were significant positive correlations between hypervolemia and rOH (r=0.624; p=0.01) and NT-proBNP (r=0.515; p=0.041).

Variable	Hypervolemia (n=8)	Normovolemia (n=8)	P Value
Male	5 (62,5%)	4 (50%)	0,614
Age (years)	63,4 ± 9,9	58,7 ± 12,9	0,428
PD vintage	54,88 ± 87,5	31 ± 24,44	0,798
PAS (mmHg)	140 ± 19,9	127,4 ± 20,2	0,229
PAD (mmHg)	79,4 ± 9,4	71,5 ± 14,2	0,212
rOH (%)	8,36 ± 6,59	-3,01 ± 7,89	0,007
Sodium (mg/dL)	138,9 ± 1,8	137,9 ± 3,2	0,511
Albumin (g/dL)	3,85 ± 0,46	4,05 ± 0,34	0,338
NT-proBNP (pg/ml)	7132,5 ± 7588,1	1990,4 ± 2788,2	0,046
RRF (ml)	950 ± 594,62	1487,5 ± 418,1	0,028

CONCLUSIONS

Our study suggests that the combination of IVCCI and LUS can be a valuable tool for predicting subclinical volume overload in PD patients. Further research is needed to evaluate whether these findings change clinical practice and bring benefits to patients outcomes.

P-35 - The V In Kt/V: Impact Of Estimate Formulas In Peritoneal Dialysis Adequacy Compared To Bioimpedance

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OBJECTIVES

This study aims to evaluate for differences in peritoneal dialysis (PD) adequacy using Total Body Water (TBW) obtained using either bioimpedance (BI) or estimate formulas: Watson and Watson (WW), Hume-Weyers (HW) and Chertow (CH).

METHODS

Retrospective single center observational study of a Portuguese PD program comprising every BI and adequacy measurement taken concomitantly. Primary endpoint was significant difference between BI-TBW and WW, HW and CH derived TBW. Secondary endpoints included correlations and comparison of the observed difference in subgroups based on body mass index (BMI) and percentage body fat (PBF).

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RESULT

A total of 400 measurements were obtained from a total of 90 patients. TBW was lower using BI compared to the formulas (33.7 ± 5.6 vs. WW: 38.7 ± 5.6; HW: 39.3 ± 5.6; CH: 43.1 ± 8.5 litters, p<0.001) corresponding to a significantly higher weekly Kt/V (2.63 ± 0.7 vs. WW: 2.3 ± 0.63; HW: 2.2 ± 0.6; CH: 2.1 ± 0.6, p<0.001). BI Kt/V correlated strongly with the three formulas, particularly with HW (r=0.92, p<0.001), followed by WW (r=9.15, p<0.001) and finally CH (r=0.86, p<0.001). Differences in Kt/V from BI were highest in obese patients, defined as BMI over 30 (WW: 0.55 vs. 0.3; HW: 0.54 vs 0.35; CH: 0.75 vs. 0.46, p<0.001) and in those with a PBF over 40% (WW: 0.55 vs. 0.24; HW: 0.58 vs. 0.29; CH: 0.88 vs. 0.39, p<0.001) with PBF showing a stronger correlation with the difference in the obtained Kt/V when compared to BMI (WW: r = 0.66 vs. 0.25; HW r=0.66 vs. 0.19; CH r=0.8 vs. 0.57, respectively, p<0.001 throughout).

CONCLUSIONS

Estimate formulas utilization is linked to a systematic error with overestimation of V and consequently underestimation of Kt/V. We suggest BMI as predictor of a higher discrepancy in adequacy results, particularly in centres without access to BI-TBW.

P-36 - Peritoneal Dialysis Adequacy In The Overweight Patient: Is It Really Under 1.7?

Rui Duarte[1], *Ana Trigo*[2], *Rita Valerio Alves*[3], *Hernani Goncalves*[4], *Ivan Luz*[5], *Paulo Santos*[6]

Centro Hospitalar Do Médio Tejo

OBJECTIVES

Adequacy through Kt/V is still believed to be a strong indicator of insufficient dialysis, often prompting changes in PD prescription. Calculation of V and total body water (TBW) in landmark trials on PD adequacy utilize the Watson and Watson (WW), although only validated for healthy patients without conditions affecting water metabolism. High body mass index (BMI) contribute to this error due to the relatively low adipocyte water content. This study aims to determine, in a single PD program, the rate at which Kt/V is under the objective of 1.7 while using WW estimates compared to the rate with body monitor composition (BCM) derived TBW in patients with a BMI over 25.

METHODS

We designed a retrospective observational single center study of a Portuguese PD program comprising every BMC measurement taken concomitantly to an adequacy measurement. The group was divided based on a cut-off for BMI of 25. Differences in WW TBW and BCM TBW were obtained for both groups and compared. Relative frequency of adequacy measurements below the 1.7 cut-off were quantified with each of the approaches.

RESULT

A total of 400 measurements were obtained and divided iby the 25 BMI cut-off. Comparison of obtained TBW and Kt/V confirmed a bigger discrepancy in overweight patients using WW estimates compared to BCM (+5.8 vs +3.7 liters, p < 0.001 and -0.44 vs -0.25, p<0.001, respectively), with WW systematically overestimating TBW. In the BMI over 25 group, Kt/V was inferior to 1.7 in 17.3% of patients when using the WW compared to 7.3% when using BCM derived TBW.

CONCLUSIONS

The utilization of WW estimation systematically overestimates TBW, and its discrepancy increases in overweight patients. Our study suggests Kt/V assessment as insufficient to characterize dialysis adequacy, underlining the importance of adjusting to the clinical setting and avoid impetuous PD prescription changes.

P-37 - Enhancing Peritoneal Dialysis Competence And Service Provision In An Acute Hospital: A Collaborative Approach

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OBJECTIVES

To investigate the impact of a collaborative partnership between the National Health Service (NHS) and a dedicated Peritoneal Dialysis (PD) education centre in an acute hospital setting, in addressing identified PD knowledge and skills gaps among ward staff, through a tailored PD Competency and Training workshop. These gaps were identified following some issues and concerns from both patients and staff

METHODS

A prospective action research project, evaluating the impact of a CAPD educational workshop on nursing staff PD competency. Data collection comprised a mixed methods approach utilising qualitative and quantitative online surveys, conducted immediately post

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workshop and at two months. The survey incorporated: closed and open questions; Likert 5-point rating scale; and an adapted Benner-level self-assessment matrix to assess nurse competence, knowledge, and abilities.

RESULT

An overall improvement in all measures was identified (Table 1). No further issues have been reported in this ward following the period workshop to date.

Ward Manager Verbal Feedback: *'Ward Sisters have noticed the changes, they can rely on the newly trained staff to help with CAPD exchanges within the ward, PD Outliers in other wards and A & E.*

Category	Pre-Workshop	Immediate postworkshop	Two months post workshop
Benner Level matrix rating	5 x Novice 1 x Advanced Beginner		2 x Novice 4 x Advanced Beginner
Competencies rating		6 nurses stated prepared for achieving	6 nurses had competencies Signed off.
Confidence rating	1		3.5
Theoretical knowledge rating	1.4	4.5	4.2
Performing CAPD rating	1	4.4	3.3

CONCLUSIONS

The initial findings show an improvement in ward nurses' knowledge and skills, with most now competent in CAPD. PD provision is now well-covered in various clinical areas, reducing incidents. The collaborative approach, supported by dedicated study time and the partnership with the specialized PD Education Centre, positively impacts the knowledge and skills of nursing staff and enhances PD service provision.
Recommendation: Creating an increased opportunity for practical experience with PD patients, post workshop, would further consolidate nursing competence and confidence.

P-38 - Peritoneal Dialysis Beyond 10 Years: Experience Of CHU IBN SINA-Rabat-Morocco

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OBJECTIVES

Peritoneal dialysis (PD) is increasingly adopted as a treatment for end-stage renal disease (ESRD). The half-life of PD is 5 years, and few studies have evaluated results beyond 10 years. The aim of our study is to review the demographics, clinical and biological characteristics, the complications and the determining factors in the survival of the PD technique over 10 years.

METHODS

This is a retrospective study, between June 2006 and July 2023. We included patients with a follow-up of more than 10 years. We studied clinical and biological parameters at the start of peritoneal dialysis and at 10 years, and also explored mechanical and infectious complications of the technique.

RESULT

In 17 years, 234 patients have been recruited and 9 patients have been followed up for more than 10 years. The mean age at the start of dialysis was 42±18 years, with a M/F sex ratio of 0.5. The median Charlson score was 2 [2-4]. All patients were autonomous. Eight patients started on continuous ambulatory peritoneal dialysis (CAPD). Currently, 5 patients are on automated peritoneal dialysis and 4 on CAPD. Median KT/V at 1 year was 1.5 [1.3-1.7] and at 10 years was 1.48 [1.2-1.5]. All patients experienced episodes of peritonitis, with a mean of 3.2±1 peritonitis. The mean survival of the technique is 11± 1 year. Two patients maintained residual renal function of more than 4 ml/min.
Survival of the technique was significantly higher for women ($p<0.05$). There was no statistically significant difference between technique survival and socioeconomic level, and comorbidities.

CONCLUSIONS

The survival time for PD can exceed 10 years, thanks to medical and paramedical care provided to patients, and most importantly, retraining of both patients and the medical team.

P-39 - From Peritoneal Dialysis To In-Center Hemodialysis: What A Transition!

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OBJECTIVES

Hemodialysis (HD) and peritoneal dialysis (PD) are two complementary and non-competing extra-renal purification methods. Regardless of the modality used, the possibility of an additional change in technique should be discussed with the patient. The goal of this study is to identify the incidence and causes of the switch from peritoneal dialysis to hemodialysis and to describe the transition phase.

METHODS

This is a retrospective study conducted in the nephrology department at the HASSAN II university hospital in Fez, Morocco. We included all adult patients on chronic peritoneal dialysis who have switched to hemodialysis between January 2018 and December 2022.

RESULT

During the study period, 82 patients were on PD, of which 46 patients (56%) were transferred to HD. At the initiation of PD, the average age was 42 years +/-17.1 [19 – 70], 54% were female, 17.7% were diabetic. The average duration on PD was 13 months +/- 9.4 [1 – 42]. Among the patients, 16.6% have switched during the first 3 months and 40.4% during the first year. Infectious and mechanical complications were the common causes of the switch (35% and 32% respectively). In 17% of cases, patients preferred to be transferred to HD without any medical indication. The occurrence of peritonitis and reduced diuresis were significantly associated with a higher risk of switching to HD, with p values of 0.026 and 0.036, respectively. However, age, comorbidities, and PD modality were not associated with the switch to hemodialysis. During the transition phase, 41% required hospitalization and only 30% had an already established arteriovenous fistula.

CONCLUSIONS

The transition from PD to HD should be discussed and planned with patients, especially those without a kidney transplantation plan. Identifying patients at risk of transfer could improve transition conditions and the outcomes for these patients.

P-40 - Practice Patterns In Bowel Program Prior To Pd Catheter Insertion In The Netherlands And Belgium

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OBJECTIVES

Peritoneal dialysis (PD) catheter dysfunction is a frequent cause of early PD technique failure. The ISPD recommends preventing perioperative constipation to support successful long-term peritoneal access, when inserting a PD catheter. We explored bowel program practices prior to PD catheter insertion in the Netherlands and Belgium.

METHODS

We conducted a web-based survey in January 2023 among all Dutch and Belgian dialysis centres questioning centre size, the use of oral laxatives, enema and reasons for (not) performing bowel preparation. Descriptive statistical analyses were performed.

RESULT

Response rate was 69% (58/84). Of the responding centre 29% had <10 prevalent PD patients and 17% had >30 prevalent PD patients.

A bowel program prior to PD catheter insertion is present in 56% (33/58) of the centres. Oral laxatives are prescribed in 64% of the centres, enema in 9%, and 27% prescribe both.

When prescribing laxatives, 82% prescribe osmotic laxatives,4% prescribe contact laxatives, 11.% prescribe a combination preparation consisting of osmotic and contact laxatives. When enemas are prescribed, 90% prescribe a combination preparation.

The initiation of oral laxatives is in 69% > 2 days prior to catheter insertion, and in 31% the day prior to catheter insertion. Enemas are prescribed the day prior to catheter insertion (54%) or the day of catheter insertion (27%).
Reasons for prescribing laxatives prior to PD catheter insertion are prevention of catheter dysfunction (94%), prevention of perioperative constipation (76%) and prevention of procedural complications (41%).

The main reason for not performing bowel preparation is that the centres had no protocol (38%) or deemed there was no benefit (42%).

CONCLUSIONS

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This survey shows that only 56% of centres in the Netherlands and Belgium have a bowel program prior to PD catheter insertion as recommended by the ISPD. Oral bowel preparation is predominantly applied.

P-41 - Peritoneal Dialysis In Patients With Autosomal Dominant Polycystic Kidney Disease

Mohamed Ben Hmida[1,2], *Beya Fandri*[1,2], *Hanen Chaker*[1,2], *Mouna Riguen*[1,2], *Najla Dammak*[1,2], *Salma Toumi*[1,2], *Fatma Mseddi*[1], *Soumaya Yaich*[1,2], *Khawla Kammoun*[1,2]

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OBJECTIVES

Autosomal Dominant Polycystic Kidney Disease (ADPKD) is a genetic renal disease characterized by an increase in renal and hepatic volume, with frequent colonic diverticula and abdominal wall hernias. In end-stage renal failure, peritoneal dialysis (PD) is less frequently proposed for these patients, for fear of increased complications.

METHODS

We analysed overall survival and technical survival of patients with ADPKD treated with PD at PD unit. We conducted a retrospective study on patients who initiated peritoneal dialysis between 2010 and 2020.

RESULT

Among 71 patients, seven had ADPKD. The mean age at the start of PD was 51.14 years ± 10.6 years, with a male-to-female ratio of 0.4 (2M/5F). Five patients had hypertension, and none had diabetes. The Charlson score was ≥3 in four patients. The majority of patients (4 patients) were treated with continuous ambulatory peritoneal dialysis (CAPD). The mean follow-up duration was 59.7 months. Only one patient underwent nephrectomy for kidney transplantation preparation. The ADPKD status was not associated with an increased risk of inguinal hernia or peritonitis; four out of seven patients (57%) experienced peritonitis compared to 64% of non-ADPKD patients. The mean ultrafiltration (UF) rate was 771.4 ml/24h for ADPKD patients vs. 873.2 ml/24h for non-ADPKD patients. ADPKD patients were less anaemic with an average haemoglobin level of 10.9 g/dl vs. 9.4 g/dl. Two patients died (post-cholecystectomy septic shock, malnutrition), one patient was lost to follow-up, and one patient received a kidney transplant. Three patients are currently undergoing PD, with one having an uncomplicated umbilical hernia.

CONCLUSIONS

Patients with ADPKD do not have an increased risk of complications compared to other patients during peritoneal dialysis, which remains a reasonable treatment option.

P-42 - A Decade Of Experience In Peritoneal Dialysis

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OBJECTIVES

Peritoneal dialysis (PD) is a cornerstone of the integrated treatment of end-stage chronic kidney disease (CKD). Offered as a first-line option in managing end-stage CKD, it provides patients with the benefits of home dialysis. We present our experience with this technique over a decade.

METHODS

This is a retrospective study conducted in our department, including all patients with end-stage CKD who were treated with PD from January 2010 to June 2021, and for whom clinical, biological, and follow-up data were available.

RESULT

Our study included 71 patients regularly followed in our PD unit at Hedi Chaker University Hospital in Sfax. The mean age was 43.92 ± 15.82 years (ranging from 13 to 83 years) with a male-to-female ratio of 1.53. The most common comorbidities observed, in descending order, were hypertension (74.6%), dyslipidaemia (28.2%), diabetes (9.9%), and cardiac disease (4.2%). The initial nephropathy was indeterminate in 35.2% of cases, chronic interstitial nephropathy in 29.6% of cases, chronic glomerular nephropathy in 21.2% of cases, diabetic nephropathy in 8.5% of cases, and familial nephropathy in 5.5% of cases. The method of PD catheter placement was via mini-laparotomy in 91.5% of cases and laparoscopy in 8.5% of cases. The modalities of PD included continuous ambulatory peritoneal dialysis (CAPD) in 54.9% of cases, automated peritoneal dialysis (APD) in 25.4%, and continuous cyclic peritoneal dialysis (CCPD) in 15.5%. We recorded an overall peritonitis rate of 1 episode per 44.33 patient-months. The average time of peritonitis occurrence was 12.47 ±

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15.36 months (ranging from 0 to 72 months), with a favourable outcome in the majority of cases (92%). Thirty-five percent of our patients did not experience any episodes of peritonitis during their follow-up. Mechanical complications occurred in 21.12% of our patients.

Among the 71 patients, 39 patients discontinued PD, on average, after 41.15 ± 28.25 months (ranging from 2 to 108 months), due to death in 30.73%, renal transplantation in 12.82%, and transfer to haemodialysis in 58.97%. Two deaths directly related to the technique were due to encapsulating peritonitis

CONCLUSIONS

PD is a time-limited renal replacement technique that can extend up to a decade and holds significance in the course of patients with end-stage CKD

P-43 - Use Of Midiálisis App In Peritoneal Dialysis Patients

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OBJECTIVES

Technological innovation has revolutionized medical assistance, and peritoneal dialysis (PD) patients are the paradigm of patients willing to use telemedicine. The aim of this study is to assess the feasibility and acceptance of MiDiálisis App.

METHODS

MiDiálisis App, developed independently, integrates essential self-care data (such as blood pressure, ultrafiltration and weight), presenting it in real-time graphs and tables for both patients and nephrologists. This is a prospective observational pilot study in which MiDiálisis App was offered to PD patients at a tertiary hospital.

RESULT

Out of the 10 patients offered the use of the MiDiálisis App, 3 did not use it (NU) due to technical issues. Seven patients used (U) MiDiálisis for a median of 9 [4-11] months. The majority were male (n=6) and on automated PD (n=6) for a period of 30 (15-38) months. We registered 6.3 (5.6-6.7) days with interaction/week.
NU patients were older (U 61 [54-69] years vs NU 68 [34-75] years, p=0.5), with higher comorbidity Charlson index (U 5 [4-7] points vs NU 7 [3-9] points, p=0.5), and greater Frail index (U 2 [1-2] points vs NU 3 [2-4] points, p=0.067).
Six patients completed a survey after using MiDiálisis. 100% perceived a better communication with their nephrologist and greater accuracy of data compared to their previous method (paper-based recording). All of them entered the data by themselves and found both learning and using MiDiálisis to be easy; 83% considered the app beneficial for their health, and 100% felt secure using it. Furthermore, 67% reported significant changes in their self-care habits, and 83% mentioned an increased awareness of their health status. All participants would recommend it to other patients.

CONCLUSIONS

MiDiálisis App is applicable and has good acceptance among people undergoing PD. It might be an useful tool that can improve self-care, adherence, and communication

P-44 - Covid-19's Impact On Peritoneal Dialysis

Ivan Garcia Alfaro[1], *Francisco Javier Centellas Pérez*[1], *Juan Pérez Martínez*[1], *Agustin Ortega Cerrato*[1], *Samuel Blas Gómez*[1], *Rocio González Cano*[1], *Sara Piqueras Sánchez*[1], *Isabel Montesinos Navarro*[1], *Encarnación Bellón Pérez*[1], *Pilar Escribano Cuerda*[1], *María Delfina Calero García*[1]

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OBJECTIVES

Our study target was know the COVID-19 pandemic impact on incidence and prevalence of PD patients and its peritonitis ratio.

METHODS

We carried out a descriptive study of patients with PD treatment in our hospital during 2019, 2020, 2021 and 2022. We collect filiation data, start and end dates of PD treatment, peritonitis episodes, bacteria issolation on peritoneal fluid cultures and give up reasons.

RESULT

The median of patients wiht PD treatment was 56.41 (SD 4.73) in 2019, 48.83 (SD 1.58) in 2020, 46.3 (SD 2.11) in 2021 and 45.3

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(SD 1.59) in 2022. 2.5 patients started PD per month (SD 1.31) during 2019, 3.08 per month (SD 1.44) during 2020, 3 per month (SD 1.41) during 2021 and 2.16 per month (SD 0.89) during 2022. During 2019 4.25 patients gave up PD per month (SD3.01), 2.66 (SD 1.49) during 2020, 2.5 (SD 1.76) during 2021 and 2.16 (SD 1.77) during 2022. Most of patients gave up because of kidney transplant (36.7%) with 1.66 kidney transplants per month (SD1.23) in 2019, 0.58 (SD 0.66) in 2020, 0.9 (SD 1.37) in 2021 and 1.08 (SD 1.32) in 2022. Between march and july 2020 1.5 patients per month (SD 1) started the treatment with PD while 2.5 patients per month gave up technique (SD 2.08) because of exitus in most cases (30%). 88 peritonitis episodes were reported during this four years. Peritonitis ratio measured on peritonitis episodes per patiend/year resulted on 0.35 during 2019, 0.36 during 2020, 0.6 during 2021 and 0.48 during 2022. Most frecuent bacteria issolation were: *S.aureus* (26%), *S.epidermidis* (19%), *P.aeruginosa* (15%), *E.coli* (14 %), *S.mitis* (8 %) y *K.pneumoniae* (8 %), among others. No fungal infections were reported.

CONCLUSIONS

PD is nowadays a renal replacement therapy which prevalence stay constant in our hospital although variations happened during pandemic months: fewer patients started PD while the namber of patients who gave up stay unchanging because of exitus of some patients by COVID-19 infection. We highlight the absence of kidney transplants between march and july 2020. Althugh the number of transplants increased since second half of 2020, it hasn't reach 2019 numbers yet. Otherwise, peritonitis is an important complication of PD which incicence in our hospital results below 0.5 episodes per patient/year being an important cuality sign of PD unit. It calls to attention the relative lowering of peritonitis.

P-45 - "Heading Awards 3.0 Patients" Impact Of An Online Health Workshop On Internet Search Of Healthrelated Issues By Peritoneal Dialysis Units Patients, From The Nephrology Service.

Ivan Garcia Alfaro[1], *Francisco Javier Centellas Pérez*[1], *Ricardo Martínez Reolid*[1], *Juan Pérez Martínez*[1], *Agustin Ortega Cerrato*[1], *Samuel Blas Gómez*[1], *Rocio González Cano*[1], *Sara Piqueras Sánchez*[1], *Isabel Montesinos Navarro*[1], *Encarnación Bellón Pérez*[1], *Pilar Escribano Cuerda*[1], *María Delfina Calero García*[1]

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OBJECTIVES

Determine how frequent medical information is searched for online, the main topics and the different sources of information used by PD patients in our Service of Nephrology.

METHODS

Observational prospective study using a cohort of patients from PD Unit (predialysis and on dialysis). First, an online survey was used in order to obtain demographic variables and to determine the use of different sources of information and their quality. Secondly, patients were instructed in ICTs via virtual desktop as well as in two live workshops.

RESULT

52 patients (37 men, 15 women). Mean age: 61.7 years. Academic level (elementary
school: 20). Place of residence (urban: 65.4%). 48% never uses the internet. From the rest: 68% searches in a regular manner for health-related issues, with "Google" being the main search engine (77.8%). 100% have searched for their own illnesses, 72.2% consider the information found not completely reliable. 61% looks for information before and after the clinical encounter. 72.2% have asked other patients about nephrological health related issues, while 27.8% have given counsel of said issues to others. 86.5% doesn't use health related Apps and only 5.8% use blogs. Among the variables analysed, differences where found in being older age and less use of internet (ANOVA test $p<0.001$) and with lower cultural level and less use of new technologies (Chi-squared test $p<0.001$).

CONCLUSIONS

The analysed data show that nowadays we face two main problein our PD unit:
• Generational digital divide: we have patients who have not incorporated into their lives the use of new technologies, in contraposition to others who use them in regular bases.
• Guarantee that those who use digital resources can access them in a simple and trustworthy manner.
Therefore, we believe that the second phase of this project, both the workshops and the
virtual desktop, are tools that can help fix these problems.

P-46 - Risk Factors Of The Development Of Anuria In Patients Undergoing Automated Peritoneal Dialysis

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OBJECTIVES

Automated peritoneal dialysis (APD) was used as a dialysis treatment modality for advanced chronic kidney disease. The development

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of anuria in patients undergoing APD can affect the quality of life and the adequacy of dialysis. The aim of this study was to evaluate its risk factors.

METHODS

We conducted a retrospective study including patients undergoing APD in our hospital. Anuria was defined as urine output less than 100 millilitres per day.

RESULT

This study included 37 patients. There were 26 (70%) men and 11 (30%) women. The mean age was 39 years old [20-77]. 16 % (n=6) were diabetics. Chronic interstitial nephropathy was found in 34 % (n=12) of cases. Mean duration of APD was 36 months. 48 % (n=18) of patients used diuretics at the initiation of APD. Hyperuricemia was found in 37 % (n=14) of cases. 45% (n=17) of patients progressed to anuria. Hyperuricemia (RR: 3,4;p=0.01), duration of APD (p=0.025) and the use of diuretics (RR:1.42 ;p=0.32) were risk factors associated

CONCLUSIONS

Hyperuricemia, duration of APD and the use of diuretics has contributed to the occurrence of anuria in patients treated with APD.

P-47 - Prevalence And Risk Factors Of Medically Uncontrolled Secondary Hyperparathyroidism In Patients Undergoing Automated Peritoneal Dialysis

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OBJECTIVES

Chronic kidney disease is associated with mineral disorder such as secondary hyperparathyroidism (SHPT) which can be responsible for the following long terconsequences: cardiovascular calcifications, bone fractures, anaemia. The control of parathyroid hormone (PTH) level before the initial of dialysis help to reduce the risk of uncontrolled SHPT .The aiof our study was to determinate the prevalence and the risk factors of uncontrolled SHPT in patients undergoing automated peritoneal dialysis (APD).

METHODS

We conducted a retrospective study including patients undergoing APD in our hospital. SHPT was defined by a level of PTH higher than nine times the upper normal limit.

RESULT

This study included 37 patients. 70 % (n=26) were male and 30 % (n=11) were female. Their mean age was 39 years old [20-77]. Mean duration of APD was 36 months. Before the initiation of APD, 40% (n=15) of patients had secondary hyperparathyroidism. The mean levels of serum calcium and phosphorus for this population were respectively 2,03mmol/l and 1, 8 mmol/l.The mean level of PTH was 926 pg/mL. 93% received oral calcium supplements. 33 % (n=5) were treated with active vitamin D. The prevalence of uncontrolled SHPT one year after APD initiation was 66% for patients who initiated APD with PTH>600 versus 36% for those with PTH600 before initiation of APD was a risk factor of medically uncontrolled SHT at one year after APD initiation (Relative risk: 1.83) 95% CI[0.94;3.54].

CONCLUSIONS

Increased PTH before starting APD predicted a higher PTH level one year later despite the use of active vitamin D. It's important to have an optimal control of PTH level during non dialysis chronic kidney disease

P-48 - Triglyceride-Glucose Index In Patients Undergoing Automated Peritoneal Dialysis

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OBJECTIVES

Automated peritoneal dialysis (APD) is a treatment for kidney failure. It is a technique that exposes patients to glucose solution and may cause metabolic complications. The triglyceride-glucose index (TyG index) is associated with the occurrence of cardiovascular disease. The aim of our study was to assess the variation of TyG index during APD

METHODS

We conducted a retrospective study in non-diabetic patients undergoing APD in our hospital. The TyG index was determined using the formula [triglycerides (g/L) × fasting blood glucose (g /l)]/2. The study period was defined as the time between the beginning and the last

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follow-up during APD treatment.

RESULT

We analyzed the records of 30 patients undergoing APD. Mean age was 37[20-66] years old. 70 % (n=21) were men and 30 % (n= 9) were women. The mean duration of APD was 37 months. 30 % (n=9) of patients used dialysis solution with 1.36 % glucose concentration versus 46 % (n=14) used dialysis solutions with 1.36% and 2, 27% glucose concentration. There were no significant variation in TyG index during the study period (0, 73 vs 0, 77 at last flow-up;p=0,85). No cardiovascular complications were noted during the study period.

CONCLUSIONS

To the best of our knowledge, our study is the first to investigate the TyG index in non-diabetic patients undergoing APD. Other studies are needed to assess the utility of monitoring TyG index in peritoneal dialysis.

P-49 - Transitioning From Peritoneal Dialysis To Hemodialysis: What About Vascular Access?

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OBJECTIVES

Peritoneal dialysis (PD) cessation can be due to an extent of causes and the transition to hemodialysis (HD) should be a gradual and anticipated process that should involve the patient and the medical team. Our goal was to evaluate and describe the population transitioning between these kidney replacement techniques (KRT), mainly regarding vascular access.

METHODS

All patients in our center who had been treated with PD for more than 30 days and who were transferred to HD between the 1st January 2009 and 31 May 2023 were retrospectively reviewed.

RESULT

We obtained a total of 101 patients (55 men, 46 women) included in the study, with a mean age of 50.6 years (standard deviation (SD): 15,0 years) at the beginning of PD and 52.9 years (SD 14,7 years) at the time of transfer to HD. Mean time on PD was of 23 months (IQR: 11-43). Concerning comorbidities, 25.7% were diabetic (n=26), 92.1% (n=93) had arterial hypertension and 20.8% (n=21) had coronary artery disease. About 60.4 % (n=61) had unplanned HD initiation. Regarding reasons for transition, the majority was related to complications associated with the modality (72.3%). Regarding vascular access, 67 patients started using central venous catheter (CVC), 30 arteriovenous fistula (AVF) and 4 arteriovenous graft (AVG). When transition was programed (in 40 cases), half started with AVF, 4 with AVG (10.0%) and 16 with CVC (40.0%). We verified that there was an association between the type of vascular access and the way transition was performed (p=0.001), being planned transition associated with beginning HD using AVF.

CONCLUSIONS

Ideally, transition from KRT should be a smooth and organized process, that often does not happen. In our center, when transition is programed, an optimal vascular access is more frequently guaranteed to these patients.

P-50 - Improving Better Outcomes In Patient Survival In Peritoneal Dialysis In Andalusia (Spain): A 23years Experience.

Pedro Luis Quirós Ganga[1], *José Manuel Gil Cunquero*[2], *Carmen Reguera*[1], *Sagrario Soriano*[3], *Maria José Espigares*[4], *María Peña*[5], *Sonia Ortega-Anguiano*[2], *Isabel Villegas*[6], *Laura Piquero*[7]

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OBJECTIVES

Analysis of 23 years of monitoring all patients on Andalusian peritoneal dialysis (PD) [nformation System of the Regional Transplant Coordination of Andalusia (SICATA)] from January 1999 to December 2021 (23 years). The objectives were to analyze survival (SV) patients, comorbidity at baseline and its impact on survival (influence of comorbidity on the final results), and the influence of the of PD startup (before and after 2023).

METHODS

Statistics: frequencies, Kaplan-Meier, log-rank test, and multivariate Cox proportional hazard model.

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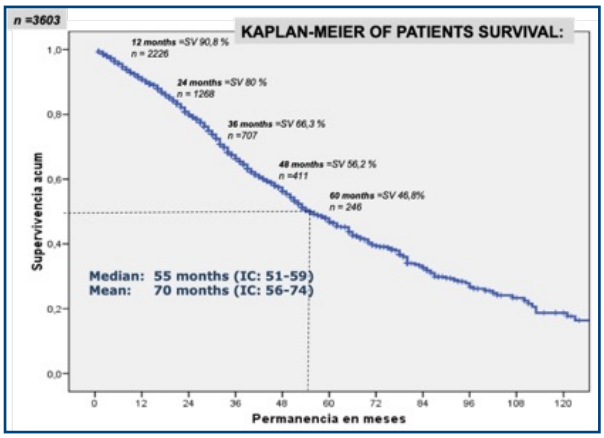
RESULT

3736 incident patients who underwent DP between 1999 and 2023. Comorbidity at the beginning of PD: cardiovascular disease (36%), diabetes mellitus (30.3%), and advanced age (23.6% of patients > 70 years). Classification by Charlson index (CI): 35% low risk (IC ≤ 3) , 37% intermediate risk (CI = 4-6) and 28% increased risk (CI ≥ 7). Slightly less than one-third of patients left the technical due to patient death. Patient survival curves (Figure 1): median 55 months (95% CI: 51-59) and mean 70 months (95% CI: 5674), comparable to results from other national and international records. According to multivariate analysis, the independent and significant risk factors at baseline were: older age (OR = 1.04) , diabetes (OR = 1.44) , or cardiovascular disease (OR = 2.046) , and the period that started with better survival for those enrolled after 2015 in PD (OR (before 2015)= 1.27) , which is probably related to better protection of the peritoneal membrane in recent years, using more biocompatible solutions with less glucose and more experience and quality of treatment.



CONCLUSIONS

DP has shown to improve the results in recent years; probably the new solutions have a positive impact. Therefore, PD should be implemented according to the criteria of effectiveness, free choice, and efficiency, and PD units should be fully developed within Nephrology Departments.

P-51 - Growth Of Peritoneal Dialysis In Andalusia: A Path Of 23 Years

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OBJECTIVES

Since 1999, the Information System of the Regional Transplant Coordination of Andalusia (SICATA) collects all data of patients on renal replacement therapy (RRT) in our Community. One goal of known efficiency on RRT is to increase the use of peritoneal dialysis (PD).

METHODS

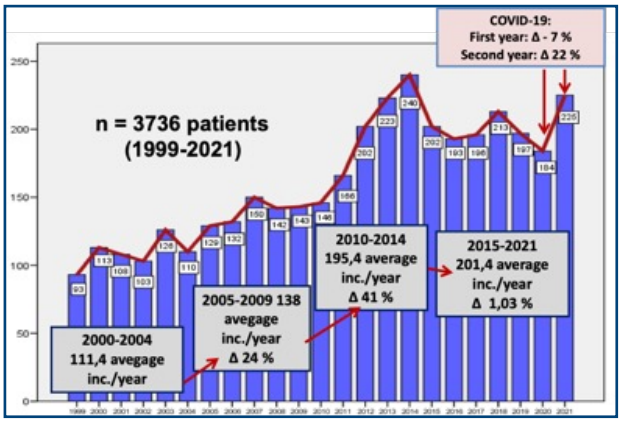
We present the analysis of PD from 1999-2021 to know how it has evolved and growth rate.

RESULT

n 1999-2021=3736. 584 in 2021. 414 remained in the program on December 31. 60.4% male. Mean age: 57 ± 16 years (43% 61-80 years). Incidence in PD has doubled from 93 patients in 1999 to 225 in 2021. In the last decade, with more incentives policies on DP, this outstanding growth has intensified, with a decline in the first year of the pandemic COVID, recovering in the second year. (Fig. 1).

Prevalence has also increased over the period studied, both among patients treated during the year and among those who were in the technique on December 31.

However, the impact is not the same in all provinces. Looking at the average incidence per million (ppm) over the study period, we see that Cadiz and Jaén lead the Community (35.8 and 29 ppm, respectively) and exceed the Andalusian and Spanish averages (22.2 and 24, respectively). But all regions increase in 2021 (incidence 17.5 to 46.6 ppm).



CONCLUSIONS

All these data show that the DP has experienced a strong growth in Andalusia, doubling the incidence in the last decade, although it is not homogeneous, it is universal for different provinces, especially in recent years.

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P-52 - Uterine Prolapse And Peritoneal Dialysis - Case Report

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OBJECTIVES

Uterine prolapse is usually considered a contraindication to peritoneal dialysis, despite the lack of epidemiological data on this topic. Known risk factors include multiple vaginal deliveries, obesity, constipation, ADPKD. Since 2022, this condition is systematically evaluated in women eligible for PD and possible solutions are assessed, especially in patients with contraindications to hemodialysis or strong personal motivations to PD.

METHODS

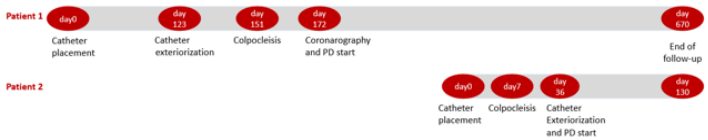
We hereby present 2 case reports of women with severe uterine prolapse who started PD successfully after surgical correction with colpocleisis.

RESULTS

73 yo, 2 vaginal deliveries, ADPKD, BMI 16, AFV not feasible. During pre-dialitic assessment, a severe uterine prolapse and a cardiac hypokinesia were detected. Given the indication to perform coronarography and the final choice for PD, the dialysis start-up course was planned as follows: we first placed a Moncrief-Popovich embedded catheter, which was exteriorized after 123 days. Then the patient underwent colpocleisis intervention (day151) and finally coronarography with angioplasty (day172). This schedule allowed us to avoid possible bleeding complications (due to double anticoagulant therapy) during catheter insertion. The patient started NIPD with reduced fill-volume (1.5lt). Dialitic adequacy was achieved and no complications arose in a 670-days follow-up.

74 yo, 2 vaginal deliveries, ESRD due to FSGS, severe uterine prolapse. She expressed preference for home treatment and was deemed suitable for CAPD and not for APD. We began by placing an embedded catheter, followed by colpocleisis (day7). A second intervention was needed because of wound dehiscence. After 36 days the catheter was exteriorized and CAPD was started with a reduced fill-volume during the day.

Pt.	Age	Vaginal deliveries	Nephropathy	Caregiver	PD modality	Dialysis Frequency	Fill volume (night)	Fill volume (day)
1	73	2	ADPKD	Daughter	APD	5/week	1,5 lt	-
2	74	2	FSGS	NO	CAPD	3/day	1 lt	1,5 lt



CONCLUSIONS

Our experience reports for the first time the treatment of a severe uterine prolapse by vaginal obliteration with subsequent initiation of PD. This was possible because of a careful pre-dialitic assessment and planning, which allowed us to share with the patient a successful strategy.

P-53 - Role Of CT-Peritoneography In Patient With Genital Edema

Rocío Gonzalez Cano[1], *Ivan Garcia Alfaro*[1], *Samuel Blas Gomez*[1], *Francisco Javier Centellas Perez*[1], *Juan Perez Martinez*[1], *Agustin Ortega Cerrato*[1], *Sara Piqueras Sanchez*[1], *Isabel Montesinos Navarro*[1], *Encarnacion Bellon Perez*[1], *Pilar Escribano Cuerda*[1], *Maria Delfina Calero Garcia*[1]

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OBJECTIVES

Genital edema is a frequent complication in those patients who are on peritoneal dialysis, generally secondary to the increase in intra-abdominal pressure that it entails. It occurs late after the implantation of the peritoneal catheter (after 30 days of implantation).
The typical clinical manifestation of this condition is basically subcutaneous edema in the genital area, accompanied by pain and UF failure.
The diagnosis must be made by using an imaging test, mainly CT-peritoneography.

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METHODS

A series of clinical cases of PD patients who consulted for genital edema is reviewed, analyzing the role of peritoneography

RESULT

CASE 1
A 76-year-old male, 15 days after the start of the technique, consulted for right scrotal edema. It was decided to suspend CAPD and start hospital intermittent IPD with low volumes. A CT-peritoneography was requested, which revealed a right peritoneal-vaginal duct and a left inguino-scrotal leak. Surgical correction of the anatomical defect was performed without incident, with subsequent return of the patient to CAPD.

CASE 2
A 78-year-old man, 15 days after the start of the technique, consulted for bilateral scrotal edema. A CT-peritoneography was performed, which showed that the leak of peritoneal fluid to the scrotum was due to bilateral inguinal hernia. Subsequently, inguinal hernioplasty of the surgical defect was performed without complications.

CONCLUSIONS

Genital edema, as a complication of patients with CAPD, appears in approximately 4-10% of them. CT-peritoneography is the diagnostic technique of choice.
To do this, 150 ml of nonionic iodinated contrast, with a concentration of 300 mg / ml, are diluted in approximately 2 liters of dialysis solution, which are introduced into the peritoneal cavity of the patient 2 h before performing the CT.
Subsequently, a CT scan of the abdomen and pelvis including the perineum is performed, in the supine position and craniocaudal direction

P-54 - Experience With Day Hospital In Cardiorrenal Disease In Our Center

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OBJECTIVES

Cardiorenal syndrome is a clinical manifestation of the bidirectional interaction between the heart and kidney diseases, so creating specific Units between Cardiologists and Nephrologists is necessary to a better treatment of these patients.
In our Hospital we have recently formed a workgroup for a better organization of outpatients who need an integral management and day-hospital assistant.

The aim of this study is to analyze the treatments and patient complicatios since the creation of a new Cardiorenal Unit in our center.

METHODS

This study includes patients receiving intravenous treatments due to cardiorenal syndrome since the creation of our Cardiorenal Unit, between 15-6-20 and 14-6-21. We have registered number of complications and also we performed a pre-post observational study comparing the number of hospitalizations in the year before the creations of this Unit and its evolution for the next year. Statistical study was analyzed with SPSS software, for a p-value less than 0.05.

RESULT

93 patients (75 men and 18 women) have been included in this study. Mean age was 72,43 years (range 18-85). Intravenous iron was the most used drug (64 times), followed by Levosimendan (38 times) and furosemide (5 times). There were no complications registered during the study. The number of hospitalizations was 2,03 the year before 0,21 the next year ($p<0,05$). 89 of 93 patients had 0 hospitalizations in the 12 months after initiating this Unit.

CONCLUSIONS

Day hospitals are an interesting treatment option for patients with cardiorenal diseases, that allows a significant reduction in hospitalization and decompensation rates. Creating new Cardiorenal Units is a good option for the integral management of these patients

P-55 - A Review Of Peritoneal Dialysis (PD) Catheter Insertion Outcomes At A Tertiary Centre

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OBJECTIVES

To evaluate the causes for PD catheter loss/removal.

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METHODS

In this study, we retrospectively looked at the outcomes of PD catheters inserted in one tertiary centre (Hull Royal Infirmary, Hull, UK) over the period of one year (1/1/2022 to 31/12/22), and followed up until 21/8/23 (a total of 20 months observation). We looked at the number of catheters still functioning by the end of the observation period and the reasons for PD catheter removal or switch of modality for those no longer on PD. Abdominal X-rays used to assess PD catheter position and for faecal loading were reviewed. We compared our results to a similar study done 3 years earlier1 and assess if changes in clinical practice may have led to differences in outcomes.

RESULT

Over the period of 1/1/22 to 31/12/22, 30 PD catheters were inserted, with each patient having one procedure. At our centre, these are done by an open surgical procedure, by our vascular surgical team. At the time of insertion, 24 patients (80%) were new to renal replacement therapy. 5 (16.7%) transitioned from being on haemodialysis previously and 1 (3.3%) had transitioned from a failed renal transplant. Over the observation period, 3 patients who had PD catheters inserted died. 2 died with functioning PD catheters (1 withdrew from PD due to failing health after a severe infection (UTI), and another died in context of a PD peritonitis episode). 1 patient died 1 day post PD catheter insertion, with the catheter never being used. For the following analysis, these patients were excluded leaving our sample size as 27. At the end of the observation period (21/8/23), 17 catheters (63%) were in situ and working. 10 catheters (37%) were removed. The indications for removal include: Poor clearances +/- persistent PD tube malposition - 4 (40%), Peritonitis - 3 (30%), subsequent finding of inguinal hernia - 1 (10%), patient unable to tolerate/escalate dialysis volumes - 1 (10%), Recovery of renal function - 1 (10%). Of the 10 patients who had their PD catheters removed, 8 transitioned onto haemodialysis, 1 had an exchange of catheter and remained on PD, and 1 recovered renal function and remained dialysis independent.10 (37%) patients had abdominal X-rays (a total of 20 radiographs done) to evaluate poor clearances at PD and sluggish flows via the catheter. These images were assessed for faecal loading/constipation and catheter position. 17 (85%) of these radiographs revealed faecal loading of which 10 (50%) also showed PD catheter malposition. Where the PD catheters were correctly sited within the pelvis on the abdominal X-rays (10 of the 20 radiographs), 3 of the radiographs revealed no faecal loading while 7 revealed faecal loading. All the radiographs with PD catheter malposition showed evidence of faecal loading.

CONCLUSIONS

It is often said that access is a dialysis patient's lifeline. Maintaining good PD access and in turn quality PD, is a symphony among those inserting PD catheters, nephrologists advising on treatment regimes, specialist nurses working closely with patient's in their day to day treatment, but probably most importantly, the patient being diligent in their treatment, keeping up with measures to reduce infection risk, and maintaining good bowel motions to reduce issues with flows and PD catheter position. A significant proportion of inserted catheters were subsequently removed within our observation period (37%). Poor clearances and catheter malposition accounted for a significant proportion of those stopping PD, as did peritonitis. Compared to a study done at this centre 3 years prior, indications for PD catheter removal were also similar. At that time 42% of inserted catheters were removed within their 22 month observation window, with 40% of those removals being due to malposition/malfunction, and 30% being due to infection. The use of abdominal X-rays also revealed the challenges of addressing these issues. Most radiographs revealed faecal loading (85%). In the radiographs where the catheter was displaced, all had faecal loading. Over the past few years, soluble fibre supplements has been increasingly used in our patient group alongside the standard laxative regime previously prescribed (Senna and Docusate at our centre).
This may have contributed to a smaller proportion of patients in this study who required abdominal X-rays at all, compared to the previous study (30% vs 60%). Despite the addition of a fibre supplement and overall fewer radiographs being performed, tube malposition in the context of faecal loading continues to be a significant issue leading to treatment failure and we need to consider further strategies in addressing this.

P-56 - How To Start An Assisted Peritoneal Dialysis Program – A Pilot Project In Lower Austria

Sarah Halmer[1], *Birgit Pfaller*[2], *Michaela Mitteltrasser*[3], *Michael Kirchner*[4], *Angela Koller*[5], *Martin Wiesholzer*[6]

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OBJECTIVES

As life expectancy increases, a growing number of frail and elderly people live with chronic kidney disease (CKD). Peritoneal Dialysis (PD) allows patients to spend more time in their homes and is often the renal replacement therapy (RRT) of choice. However, due to physical and cognitive deficiencies, assistance is often required for treatment. Community nursing care of PD patients might help overcome hospital nursing shortages and extend reach by providing more comprehensive care coverage in rural areas. We propose a strategy to help other Austrian renal units launch assisted PD (asPD) programs.

METHODS

An asPD program was started at the University Hospital St. Pölten with community nursing healthcare providers thanks to funding from the Lower Austrian Health and Social Fund (Niederösterreichischer Gesundheits- und Sozialfonds). After selecting five patients with CKD who opted for PD and required assistance with PD-related tasks, we contacted their local district nursing providers to arrange an introductory meeting. Community nurses then undertook training sessions provided by specialised hospital PD nurses based on our hospital's Standard Operating Procedures (SOP) for PD care. This will be followed by a transitional shared care and handover period.

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RESULT

Building an asPD program requires funding, careful patient selection, training care providers based on availability and law, implementation of training protocols according to training standards/SOPs, and a structured handover and follow-up period.

CONCLUSIONS

Delegating PD care from hospital/PD nurses to home healthcare providers enables more patients to benefit from at-home dialysis. A stepwise guide in accordance with national prerequisites can help advance asPD programs more efficiently in other parts of the country.

P-57 - The Necessity To Maintain The Well Being Of Patients On Capd In Romania.

Nicoleta Havasi[1], *Gabriel Bako*[2], *Marta Gemene*[3], *Anca Blaga*[4], *Simona Baliban*[5], *Mirela Urdea*[6], *Ioana Ratiu*[7], *Adriana Baidog*[8], *Nicoleta Lup*[9]

Diaverum Romania Oradea Dialysis Unit1, Bihor Emergency Clinical Hospital2, Diaverum Romania Sema Parc Dialysis Unit3

OBJECTIVES

In Romania, at Diaverum, only 3% of patients benefit from DP.
Some patient related peculiarities refer to lack of therapeutic efficiency in long duration patients, peritonitis, patient's death or transplantation, while non-patient related issues concern the difficulty to assess a trained surgeon, the difficulty in making the decision of choosing that therapy, identifying the type of patient to accept that therapy, and most challenging of all, to exist in several dialysis units the trained staff to manage the ongoing of DP.

METHODS

The tripod constituted by patient, trained nurse and physician is essential in the success of that therapy. It is needed vision, education, time, both to patient and staff. A routine in the knowhow of the procedure for the staff is necessary, which implies the need to exist one pool of patients that are addressed to that type of therapy, in order to maintain the routine procedures that need to be performed when the patient is initiated to PD. Without the presence of trained staff, in order to uptake a patient who is hospitalized in non –related PD department, and with the patient's inability to perform the therapy, there can exist the risk to compromise this type of therapy.

RESULT

Besides factors mentioned above, nutritionists and therapists contribute to the well being of the patient.
Besides mechanical and infectious complications, which may diminish the patient's chance for a long term therapy, the question remains on how much the good care and the well being of patient integrated in the caring family is one of the pillars in the therapy. The disease related depression, many times camouflaged by the patient is hardly recognised by the nephrologist. Routine monthly visits are of short duration, and many important details from the anamnesis may be missed. We tried in our clinic to implement regular phone checks with the patients minimum once per week, in order to encourage them to talk to us, to let themselves open. We wanted to encourage them to write down all possible concerns that may occur from one visit in the clinic to the other, considering that not all those details can be clarified during the monthly check. We noted that they reported much earlier possible symptoms related to the medical conditions, which lead to a quicker access to the hospital and a quicker diagnose and accessibility to therapy.

CONCLUSIONS

To conclude, periodic checks besides the regular visits, contribute to the patient's well being and self confidence and implicit in the therapeutic success.

P-58 - Survival Of The Peritoneal Dialysis Technique And Mortality-Related Risk Factors : A Cohort Study

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OBJECTIVES

Peritoneal dialysis (PD) is a renal replacement technique increasingly chosen by patients. Few studies have analyzed the evolution of PD patients and the survival of this technique beyond 5 years. The aim of our study is to determine the survival of the PD technique, and to evaluate the prognostic risk factors for mortality in PD patients over 5 years.

METHODS

This is a retrospective cohort study between June 2006 and June 2023, including patients treated with PD. We analyzed clinical and biological data, and reported complications of the technique, as well as evolution and mortality in PD patients. The primary endpoint was

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defined as the patient's cessation of the technique, by switching to another alternative technique or by the patient's death. Survival of the technique was analyzed using the Kaplan-Meier curve.

RESULT

During this time period, we included 57 patients who has been on PD for more than 5 years, representing a prevalence of 24,3% of all patients undergoing PD since the opening of our center. The mean age at onset of PD was 45,3±17 years, with a sex ratio of 1,3. The median Charlson score was 3,12 [2-4]. During follow-up, 4 patients (7%) underwent renal transplantation, 10 patients (17%) encountered failures of the technique due to medical or social conditions, and 17 patients (29,8%) passed away. Survival was significantly lower ($p<0.05$) in patients with abdominal hernia, and in patients who required temporary discontinuation of PD. The risk of death was significantly linked ($p<0.05$) to advanced age and a higher Charlson score.

CONCLUSIONS

The survival of the PD technique is determined by its mechanical and infectious complications, as well as to patients' comorbidities, which makes it essential to establish protocols aimed at educating our patients, in order to extend their survival rate while encouraging renal transplantation.

P-59 - Peritoneal Dialysis Outcomes In Individuals Aged ≥65, What Should We Tell Our Patients To Expect? An 18 Year Review Of Outcomes.

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OBJECTIVES

Peritoneal dialysis (PD) is an ideal treatment modality for older individuals with end-stage renal disease (ESRD). The aim of this study was to review clinical outcomes in individuals commencing PD between the years of 2001-2019 in a single centre district general hospital.

METHODS

Clinical and demographic data, co-morbidities, dialysis complications and outcomes were obtained retrospectively using electronic patient records.

RESULT

During the periods of 2001-2019, 120 patients commenced peritoneal dialysis. 45% (54) individuals were aged ≥65. The mean age of PD start in this cohort was 74 years. 46% had a history of IHD and 37% had a history of diabetes.
During this time 6/54 under-went renal transplantation, 10/54 transferred to HD and 27/54 died without switching RRT modality. Of the 10 individuals who switched to HD, 40% (4/10) died within 1.5 months. The two biggest causes of mortality in the entire cohort were cardiac disease and infection.
Table 1 compares outcomes between individuals aged ≥65 comparing the two time periods of 2001-2010 and 2011-2019.

⬇ *Table 1*

	2001-2010 (N = 16)	2011-2019 (N = 38)
Mean Age at PD start	73	74
Cardiac (%)	31	53
Diabetic (%)	31	45
Mean Duration on PD (years)	2.3	2.2
Switch to HD (%)	25	13
Transplanted (%)	12.5 (transplanted after 2015)	10.5
Deceased without modality switch (%)	69	84

CONCLUSIONS

Over time patients have become increasingly co-morbid with a greater proportion undergoing transplantation. Early deaths on switch from PD to HD suggest that careful consideration should be given in regards to advance care planning when PD fails/is no longer suitable.

P-60 - Low Albumin May Be A Predictor Of Mortality In Patients Transferring From Peritoneal Dialysis To Haemodialysis

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OBJECTIVES

Peritoneal dialysis (PD) is a preferred modality for many patients needing dialysis treatment. Most patients on PD either get transplanted, switch to haemodialysis (HD) or die. We did a retrospective, observational study to ascertain the outcomes in patients transferred from PD to HD over a 5-year period and to determine variables which may predict poor outcomes in patients transferred from PD to HD.

METHODS

Electronic data base was used to obtain data for all patients transferred from PD to HD from 2014-2018. Variables noted were gender, serum albumin, reason for transfer, PD vintage, whether the transfer was expected (commencement of Haemodialysis using arterio venous fistula), as well as Stoke co morbid index score (SCI) at the time of transfer. Observed events were infection (pneumonia, cellulitis, line sepsis, tunnel infection or foot infection), morbidity due to vascular disease (peripheral vascular disease, cardio-vascular disease or cerebrovascular accidents) and mortality, within 1 year of transfer to HD. COX regression analysis was used to determine the predictor value for each of the variables for these events.

RESULT

95 patients (63 male/32 Female) were transferred from PD to HD in the study period. The mean age was 57.03 +/- 14.22 years, mean serum albumin 24.41 +/- 6.46 g/dl, mean PD vintage 1.55 +/- 1.95 years, mean SCI 1.05 +/- 0.63. The events noted within one year of transfer from PD to HD were death (n=11), vascular events (n=28), infection (n=44). The reasons for switch from PD to HD were infection (62.4%) mechanical causes (12.9%), inadequate dialysis (9.68%), patients' choice (8.6%) and not coping on PD (6.45%). 32.3% of the transfers were expected. COX regression analysis (Table 1) indicated low albumin was better predictor of mortality post transfer to HD within 1 year of transfer. None of the variables were statistically significant in predicting cardiovascular morbidity or Patients with low albumin on PD may have adverse outcomes ,when converted to HD .Further studies with larger patient numbers are needed to determine outcomes

P-61 - Growing A Pd Programme: Take On And Drop Off At A Single Centre Over 7 Years

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OBJECTIVES

Peritoneal dialysis (PD) has medical and lifestyle advantages over in centre dialysis, and is a cost effective way of providing renal replacement therapy. Growth in PD is limited by kidney transplantation, switch to haemodialysis and death. We did a retrospective analysis to assess the outcomes of patients starting PD over a 7-year period and to understand the trends in prevalent PD population in our centre.

METHODS

An electronic database (eMED) was used to identify the number of patients starting and stopping PD each year from 2015 to 2021. The reasons for stopping PD and duration of technique survival were noted. Patients who converted to temporary HD for less than 3 months were not classified as technique failure.

⬇ Table 1: Cox regression analysis for predictors of mortality.

	HR	Lower 95% CI	Upper 95% CI
Albumin	0.88	0.79	0.99
Stoke comorbid index	1.6	0.55	4.63
Transfer expected.	2.58	0.62	10.82
PD Vintage(years)	1.14	0.9	1.44
Age	1.02	0.97	1.07

RESULT

The number of patients starting (n=305) PD was higher than the number stopping PD (n=213) Take on was similar from 2015-2018 and increased by 10-20% from 2019 to 2021(table 1). Modality switch to haemodialysis accounted for 28 % of patients stopping PD. 23%

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patients stopped PD because they received a renal transplant. 17% patients died. Modality switch to haemodialysis was primarily due to infection (56%), followed by fluid leak (21%), poor clearance/ultrafiltration failure (7%), social reasons (13 %) (Table 2). Among patients who switched to HD due to an infection, peritonitis accounted for 83% of the cases with the remainder caused by exit site and tunnel infections (17%).
The prevalent PD population increased each year since 2018.

CONCLUSIONS

Maintaining growth in a PD population can be challenging even with a high incident PD population. Major modifiable factors leading to drop off from PD include infection and social reasons. Having mechanisms which prevent infections, early identification and treatment of infections, and improving access to PD to increase take on may help to increase the prevalent PD population.

P-62 - Is It Safe To Remove Peritoneal Catheter During Kidney Transplantation Surgery?

⬇ *Table 1. Year wise numbers of Patients Starting or leaving PD*

Year	Number of patients Initiating PD	Number of Patients Stopped PD
2015	40	12
2016	38	18
2017	42	30
2018	38	32
2019	51	42
2020	46	35
2021	50	44

⬇ Table 2: Reasons for the Modality switch from PD (Year wise distribution)

Year	Renal transplants	Death	Switch to HD				
			Infections	UF failure	Social Reasons	Leak	Catheter Malposition
2015	4	3	2	0	2	0	0
2016	9	1	3	1	1	3	0
2017	9	3	11	0	1	6	0
2018	14	4	7	2	0	4	0
2019	12	18	6	1	3	1	0
2020	12	10	7	0	0	2	0
2021	10	13	11	2	4	2	2

Zeljka Jurekovic[1], *Lada Zibar*[2], *Ana Vuki*[3]

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OBJECTIVES

Transplantologists have not agreed upon the optimal time for peritoneal catheter (PC) for peritoneal dialysis (PD) removal, during or sometime after kidney transplantation (TX) surgery. According to literature data, PC is frequently removed after the TX surgery. A risk for peritonitis after TX in relation with PC and previous PD is of concern.

METHODS

The retrospective study included all 75 patients after PC removal during kidney TX surgery from 2013 to 2022 in Clinical Hospital Merkur (CHM) in Zagreb, Croatia., thereof 39 men (52 %), aged 49 years (median) at TX, from 20 to 77, median duration of chronic dialysis 2 years, from 0 to 8. Hospital and outpatient data records were used for analysis.

RESULT

There were 509 kidney TXs in CHM during that 10-year period, 78 (15 %) of recipients were on PD at TX. PC removal was performed during the kidney TX surgery in 75 (96 %) of them, while three patients underwent PC removal sometime after the TX. Peritonitis did not occur during the posttransplantation period in any of those 75 patients that underwent PC removal during kidney TX surgery and no surgical complication was recorded either. One-year patient survival was 99 % (one patient died in traffic accident) and graft survival was 99 % (one patient experienced primary graft failure). Kidney graft function at 1 year expressed as median serum creatinine was 114 µmol/L, from 49 to 427.

CONCLUSIONS

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Ten years' experience with 75 patients in whom PC for PD removal was performed during the kidney TX surgery provided a clear evidence that such timing approach should be considered safe, without complications, thus rendering avoidance of one more general anesthesia and possibly reducing peritonitis risk and the cost.

P-63 - Peritoneal Dialysis Catheter Insertion By The Nephrologist : A Survival Story

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OBJECTIVES

To assess the feasability of peritoneal dialysis catheter (PDC) insertion performed by nephrologist using locoregional anesthesia and assess factors affecting the catheter survival.

METHODS

Data were collected retrospectively on all PDC inserted by a nephrologist under transversus abdominis plane block anesthesia at the nephrology department in the hassan II university hospital in Fez, Morocco, between November 22, 2018 and december 31, 2022. The insertion was performed using mini-laparotomy procedure. We excluded patients whose follow-up was less than 1 month. Catheter survival was estimated using Kaplan Meier method. Cox proportional hazard regression model was used to identify factors that are independently associated with catheter survival.

RESULT

77 catheters were performed in 70 patients. The average age of patients at PDC insertion was 42 years ±16 [16 – 73]. The mean BMI was 22.5 kg/m2 ± 3 [18 - 30]. To assess tolerance a numerical scale was used; 65% of patients tolerated the procedure well and reported no pain (rated as 0) while two patients required sedation due to severe pain (rated as 10). The mean duration of the procedure from skin incision to the end of insertion was 45 ± 5 minutes. No bowel perforation or serious hemorrhage was recorded. Early complications (<1 month) occured in 18% of cases (n=14), mostly related to mechanical problems. Catheter survival was 56% and 50 % at 6 months and 12 months respectively. Factors such as age, gender, BMI and diabetes did not have an impact on catheter survival. However there was an association between early complications and lower catheter survival rates (p=0.007). According to Cox regression analysis, mechanical complications had a significative impact on catheter survival (p=0.02).

CONCLUSIONS

Nephrologists are able to provide a satisfying procedure and thus potentially improving PD penetration and avoiding the risks of general anesthesia.

P-64 - Are Cardiac Natriuretic Peptides Useful For Predicting Peritoneal Protein Loss?

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OBJECTIVES

It has been suggested that greater peritoneal protein loss (PPL) in peritoneal dialysis patients might be the consequence of volume overload pointing to potential role of cardiac marker NT-pro-BNP in volume assessment. Additionally, high transporters and diabetics used to have greater peritoneal protein flux, although those relationships may not be casual but indirect because of hypervolemia.

METHODS

We performed cross-sectional study in 57 prevalent patients on peritoneal dialysis to determine the association of peritoneal protein and albumin loss with BNP and NTproBNP as volume overload markers, transport status and comorbidity including DM.

RESULT

The average peritoneal PPL was 13.29 ± 7.33 g/day, whereas average peritoneal albumin loss was 8.55 ± 5.89 g/day. There were not differences in peritoneal protein and albumin loss, D/PCr and transport categories for creatinine between diabetics and non-diabetics. Interestingly, correlation analysis did not shown significant association of PPL with D/PCr, nor with the Davies comorbidity index, but significant association was found with age (r=0.299; P=0.028), icodextrin use (r=0.466; P=0.001), daily exchange volume (r=0.3; P=0.023), ultrafiltration (r=0.277; P=0.041) and NT-pro-BNP (r=0.265; P=0.048). On multivariable regression analysis the independent association of icodextrin use with PPL was found (β-0.46; P=0.001). Patients with higher comorbidity grade had greater values of NT-pro-BNP (1465.53 ± 14180.65 pg/mL vs. 4499.12 ± 3347.47 pg/mL; P=0.001) and BNP (752.63.63 ± 527.5 pg/mL vs. 93.76 ± 89.94 pg/mL; P=0.000). NT-pro-BNP and BNP correlated with left ventricular mass index.

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CONCLUSIONS

The association of PPL with icodextrin use points to dependence of PPL on the dwell time. The absence of significant association of NT-pro-BNP with PPL on multivariable analysis is partly due to the small number of subjects. For a more precise analysis of the impact of hypervolemia on PPL, other diagnostic methods should be used, although cardiac natriuretic peptides have roll in evaluating left ventricular dysfunction.

P-65 - Long-Term Outcomes Of Peritoneal Dialysis Patients: 2001-2020

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OBJECTIVES

The incidence of peritoneal dialysis is gradually decreasing, compared to hemodialysis since 2006 in Korea. Patients who start hemodialysis remain on hemodialysis for the rest of their lives unless they receive a kidney transplant, but patients who start peritoneal dialysis may switch to hemodialysis or receive a transplant within a few years, making it difficult to know how they fare in long-term follow-up. To understand the long-term outcome of peritoneal dialysis, we examined the patients initiating peritoneal dialysis between 2001 and 2020 in our center.

METHODS

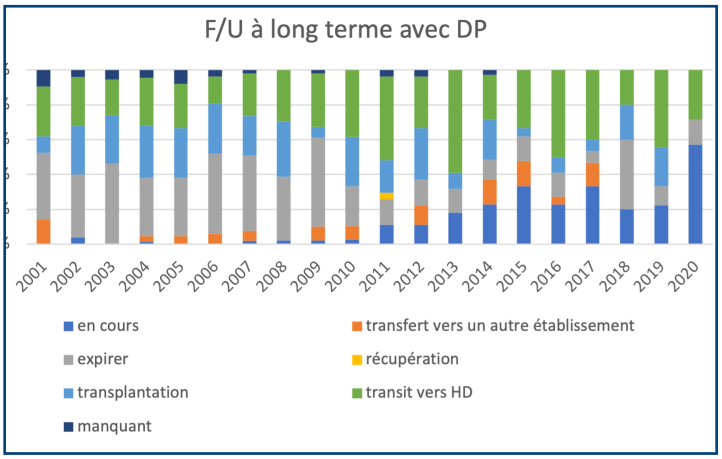
Of the 775 patients initiated on peritoneal dialysis between 2001 and 2020, we analyzed the long term follow up of 685 patients who remained on peritoneal dialysis for more than 90 days. From 2001 to 2020, follow-up vintage was shortest in 2016 at 621 days (IQR 525, 1022) and longest in 2011 at 1829 days (IQR 792, 2237).

RESULT

Prior to 2010, about 30% of incident peritoneal dialysis patients each year switched to hemodialysis, but after 2010, transition to hemodialysis increased to about 60% of incident peritoneal dialysis patients each year. Patients who died prior to 2010 were 23-51% of incident patients each year, with mortality rates decreasing around 10% since 2011, except in 2018 when fewer patients started peritoneal dialysis.

CONCLUSIONS

Further studies to understand the outcome of peritoneal dialysis are needed.



P-66 - Diet Evaluation And Inflammatory Markers In Peritoneal Dialysis Patients

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OBJECTIVES

The aim of the study was to evaluate diet, body composition, PRAL values, inflammatory markers and routine blood analysis in the group of peritoneal dialysis patients.

METHODS

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14 peritoneal dialysis patients were included in a single Department of Nephrology at the University Medical Center in Ljubljana. All patients were interviewed by a dietitian and a nutritional assessment was conducted. The dietary intake of peritoneal dialysis patients was assessed using 7-day food diaries and analyzed with the Prodi program (PRODI® 6.4 Expert program, Stuttgart, Deutschland). Body composition has been measured with bio-impedance spectroscopy. Routine blood analysis was performed.

RESULT

The average energy intake of 14 patients was 21.05 ± 5.72 kcal/kg body weight per day, the average protein intake was 0.87 ± 0.39 g/ kg body weight per day and the average fibre intake was 13.75 ± 7.25 g per day. The average dietary protein-fibre index was 6.86 ± 3.81 per day. The average PRAL value was 15.84 ± 13.44 for women and 6.52 ± 17.99 for men. The average dietary potassium intake was 1917.80 ± 790.08 mg per day and average potassium serum value 4.45 ± 0.42 mmol/L. Dietary protein intake strongly correlated with dietary energy intake (r=0.76, p=0.003), dietary protein-fibre index strongly correlated with PRAL value (r=0.70, p=0.007). The serum value of IL-6 strongly correlated with dietary potassium intake (r=0.72, p=0.006) and moderately to strongly correlated with dietary fibre intake (r=0.6, p=0.034). The correlation between dietary potassium intake and serum hsCRP was significant (p=0.042).

CONCLUSIONS

PD patients eat less energy and protein than recommended, especially the amount of plant protein despite normal blood potassium values. The fibre intake and potassium intake are significantly associated with inflammation markers. Patients still lack the basic knowledge of nutrition, thus in the future nutritional consultations, innovative teaching techniques and help will be crucial.

P-67 - The Relationship Between The Rate Of Residual Kidney Function Decline Prior To The Initiation Of Peritoneal Dialysis And Technique Survival

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OBJECTIVES

The relationship between the rate of residual kidney function (RKF) decline prior to the initiation of peritoneal dialysis (PD) and the technique survival has not been adequately investigated. In the present study, we conducted a retrospective observational study to clarify the relationship.

METHODS

This study included 76 patients who initiated PD at our hospital from January 1, 2011 to December 31, 2021, and whose eGFR was measured 1 year ± 1 month before the initiation of PD. Patients were divided into two groups based on the median eGFR decline per year, and the technique survival was compared between 38 patients in the rapid decline (RD) group and 38 patients in the non-rapid decline (NRD) group.

RESULT

The rate of eGFR decline was 10.4±3.8 mL/min/1.73 m2/year in the RD group and 3.5±1.7 mL/min/1.73 m2/year in the NRD group. Although, there were no significant differences in age, sex, ADL, diabetes, and eGFR at PD initiation between the two groups, higher urinary protein (5.3 vs. 1.9 g/ gCr, p<0.0001) and lower serum albumin level was observed in the RD group (3.5 vs 3.9 g/dL, p<0.0001). The technique survival was 1170 days in the RD group and 1164 days in the NRD group, with no difference (log-rank test, p=0.836).

CONCLUSIONS

There was no relationship between the rate of RKF decline prior to the initiation of and the technique survival.

P-68 - Combination Of Peritoneal Dialysis And Haemodialysis- A Single Centre Experience

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OBJECTIVES

To determine if combining hemodialysis (HD) and peritoneal dialysis (PD) will enable the latter to be continued in situations where it would not have been otherwise possible.

METHODS

This was a retrospective study, wherein the charts of patients who underwent PD from February 2018 to May 2023 were studied.

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Those who underwent combination therapy were shortlisted for the study (six). The weekly dialysis dose in combination therapy was determined by using the Casino and Lopez formula. Statistical analysis was done using unpaired 2 tailed student T test.

RESULT

The average duration of PD preceding the introduction of the combination therapy was 11.16 months. Four patients were on APD and two on CAPD (one patient using 4 bags -1.36 and 2.27% glucose concentrate, and the other used 2 bags of extraneal per day). The reasons for initiating combination therapy were inadequate solute clearance as judged by the clinician in 4 patients, fluid overload of any reason in 1 patient (reason being severe LV dysfunction), solute and fluid removal inadequacy in 1 patient and inability to increase PD dose due to right hydrothorax in 1 patient. The schedule followed in all was 6 days of PD and 1 day of HD. The combination therapy was continued for an average of 22 months. The features of inadequate dialysis and fluid overload improved in all patients by the 3rd month of initiating combination therapy. The dialysis adequacy did show a significant improvement right away in all patients (1.64 ± 0.025 Vs 2.51 ± 0.096).

CONCLUSIONS

In conclusion, these case series demonstrated the feasibility of combining CAPD and HD in clinical situations with specific indications where it was not possible to achieve the adequate solute and water removal with standard PD prescription.

P-69 - Acute Asymptomatic C-Reactive Protein Rise Predicts Adverse Events In Peritoneal Dialysis Patients

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Acute asymptomatic C-reactive protein rise predicts adverse events in peritoneal dialysis patients
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OBJECTIVES

C-reactive protein (CRP) is an acute inflammatory protein that increases in association with acute and chronic inflammation due to a range of causes, including infectious diseases and noninfectious inflammatory disorders and also in metabolic stresses. The purpose of this work was to determine whether acute asymptomatic CRP elevations above the baseline level in peritoneal dialysis patients predict adverse event.

METHODS

Medical records of chronic PD patients between the years 2012-2022 were reviewed retrospectively. Cases of acutely increased serum CRP during regular patient visits without a clinical picture of inflammation or infection were collected. Follow-up analysis of each such elevated serum CRP test was performed.

RESULT

Overall 122 cases of acute asymptomatic increased CRP level were identified. Thirty-five patients (28.7%) developed an adverse event during the following month. CRP elevations that were associated with adverse events during the following month reached higher values compared to CRP elevations without adverse events, for any event - 58.97±58.29 mg/l versus 31.67±24.57 mg/l (p=0.004), for severe event - 70.28±62.26 mg/l versus 31.16±24.67 mg/l (p=0.001), for peritonitis - 54.95±28.28 mg/l versus 37.81±39.96 mg/l (p=0.024) and for hospitalization - 81.03±72.27 mg/l versus 35.79±32.91 mg/l (p=0.010), for the need for antibiotic treatment 70.40±64.66 mg/l versus 33.07±27.96 mg/l (p=0.001). The area under the receiver operating characteristics (ROC) curve for serum CRP was 0.737 for prediction of PD-related peritonitis (p=0.007); 0.771 for hospitalization (p=0.005); 0.665 for any adverse event (p=0.005); 0.768 for a severe adverse event (0.000) and 0.749 for the need for antibiotic treatment (p=0.000). Acute asymptomatic CRP elevations to a value above 50 mg/l were associated with increased risk of adverse events: Odd ratio was 3.119 (p=0.004) for any event, 4.727 (p=0.000) for severe event, 3.091 (p=0.038) for PD-related peritonitis, 5.023 (p=0.017) for hospitalization, and 3.698 (p=0.002) for antibiotic treatment. Multivariate analysis demonstrated that acutely elevated serum CRP above 50 mg/l independently associated with any adverse event and severe adverse event during the next month after the elevation. Odd ratio was 2.769 (p=0.016) for any event and 4.065 (p=0.002) for severe adverse event.

CONCLUSIONS

Acute asymptomatic increase of serum CRP above 50 mg/l among PD patients could predict future adverse event. Therefore, routine follow-up of CRP may be considered in PD patients.

P-70 - Reliability And Validity Of The Chinese Version Of Decision Regret Scale In Maintenance Dialysis Patients

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OBJECTIVES

To test the reliability and validity of the Chinese version of the Decision Regret Scale (DRS) in maintenance dialysis patients.

METHODS

From July 2021 to December 2021, the Chinese version of Decision Regret Scale was used to conduct a questionnaire survey on 151 maintenance dialysis patients who were regularly followed up in a top three hospital in Wuhan, to test the reliability and validity of the scale.

RESULT

There were 5 items in the Chinese version of the Decision Regret Scale. The Cronbach's α coefficient of the total scale was 0.826, and the split-half reliability was 0.817. The content validity index of the items of the scale was 0.80 ~ 1.00, and the content validity index of the scale level was 0.96. One common factor was extracted by exploratory factor analysis, and the cumulative variance contribution rate was 60.955%. The index of the modified model after confirmatory factor analysis is good.

CONCLUSIONS

The Chinese version of Decision Regret Scale has high reliability and validity, and can be used to evaluate the level of decision regret in maintenance dialysis patients in China.

P-71 - Percutaneous Peritoneal Dialysis Catheter Insertion: First Results From The Netherlands And Belgium

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OBJECTIVES

Percutaneous peritoneal dialysis (PD) catheter insertion is suggested by the International Society for Peritoneal Dialysis as a valid PD catheter insertion approach. In the Netherlands and Belgium, percutaneous PD catheter insertion has been available since 2014 in 6 centers. This study assesses the outcomes of percutaneously inserted PD catheters before implementing a regional training program for the technique.

METHODS

Multicenter retrospective cohort study in the Netherlands and Belgium including all patients who underwent a percutaneous PD catheter insertion between 2014 and 2022. Primary outcome was the presence of a functional PD catheter 6 months after insertion and censored for competing events (death or PD failure for reasons unrelated to PD catheter function), assessed by cumulative incidence analysis. Mechanical catheter complications (flow restriction, pericatheter leakage and abdominal pain) interfering with starting or continuing PD or resulting in an ER visit, hospital admission or requiring invasive procedures were recorded.

RESULT

A total of 186 patients with a median Charlson Comorbidity index of 6 (IQR 4-8) underwent a percutaneous PD catheter insertion attempt. Of these, 68 patients (36.6 %) had prior abdominal surgery or PD history. Insertion was successful in 97.3% (n=181). All patients with a failed insertion had a history of abdominal surgery. PD was never started in 8.3% of the patients because of flow restriction (n=12), leak (n=1) or abdominal pain (n=2). PD failure related to mechanical catheter dysfunction was 11.1% after 6 months and 15.2 % after 1 year. In this period, 18 patients died and 13 patients stopped PD for reasons unrelated to PD catheter function. The complication-free survival of the PD catheter was 64.8% after 6 months. Abdominal pain was the primary cause of ER visit and hospital admissions.

CONCLUSIONS

Percutaneous PD catheter insertion is a feasible strategy to provide PD access. Mechanical PD catheter dysfunction explained approximately a third of the PD failures within the first 6 months and often already occurred prior to PD start. These results support implementing a regional training program for percutaneous PD catheter insertion.

P-72 - Peritoneal Dialysis Catheter Insertion Via Surgical Minilaparotomy: A Nephrologist's Approach

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OBJECTIVES

Peritoneal dialysis is a renal replacement therapy technique that requires a properly functioning peritoneal catheter for its adequate implementation. There are various placement techniques and different specialists who perform it (nephrologists, surgeons, radiologists, and urologists), recommending that the technique be performed by the one with the best knowledge and expertise. The placement by surgical minilaparotomy is a technique commonly performed by surgeons, and only a few nephrology units carry it out. We propose a study to assess the complications in our unit related to this technique after a change in unit personnel.

METHODS

This is a descriptive, retrospective study of peritoneal dialysis catheter placement by minilaparotomy in our unit from September 2021 to December 2022. We analyze demographic, clinical, and laboratory variables, type of intervention, time to initiate peritoneal dialysis, and complications during the first 6 months.

RESULT

A total of 39 patients underwent catheter placement with a mean age of 57.94 ± 15,06 (20-81) years, with a higher frequency of males (59%), and diabetes being the predominant etiology of chronic kidney disease (25%). 88.6% of the catheters were placed using minilaparotomy, and 80% of the interventions were performed under local anesthesia. The mean CKD-EPI was 9.07 ± 3,39 (4,29-24,9) ml/min/1.73m2. The most common complication within the first month was mild bleeding at the insertion site (10%), and between the first month and 6 months, hernias (10%), none of which were pericatheter hernias. All complications were minor except for one patient with iatrogenic vesical injury, which required re-intervention without subsequent complications (the only catheter placed by the surgeon).

CONCLUSIONS

Peritoneal catheter placement by minilaparotomy performed by nephrologists is a safe technique, with a low rate of bleeding, leakage, malposition of the peritoneal catheter, or pericatheter hernias.

P-73 - Nephrology Nurse Shortage In Western Europe: Dialysis Nurse Demand Model

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OBJECTIVES

Nephrology/dialysis-nurse shortage represents currently a real problem in many countries, and this could limit the prescription and performance of dialysis in the future if the appropriate measures are not taken (1). Population aging has led to an increasing number of patients who initiate dialysis as well as that these patients are older (2).

METHODS

The current study aimed to develop an estimation dialysis nurse demand model in four European countries (France, Italy, Spain, and United Kingdom). Methods: In each country, the model has considered the total population; incidence of patients requiring dialysis; incidence of dialysis modality distribution (i.e., in-center hemodialysis, peritoneal dialysis, and home hemodialysis); drop-out and transplant rate; dialysis nurse labor requirements by modality (per patient); and dialysis nurse supply (3-5).

RESULT

The dialysis nursing staff required in France would need to increase by 8% over 5-years with 12,375/12,534/12,730/12,962; and 13,229 nurses required in 1-year; 2-year, 3-years, 4-years; and 5-years, respectively. In Italy, dialysis nursing staff would need to increase by 6% over 5 years with 9,658/9,829/10,013/10,216; and 10,438 dialysis-nurses needed at 1-year, 2-years, 3-years, 4-years, and 5-years, respectively. In Spain, dialysis nursing staff would need to increase by 6% over 5-years with 5,188/5,227/5,285/5,365; and 5,467 dialysis-nurses needed at 1-year, 2-years, 3-years, 4-years, and 5-years, respectively. Finally, in the United Kingdom the dialysis-nursing-staff required would need to increase by 32% over 5 years with 9,240/9,793/10,345/10,896; and 11,446 dialysis-nurses at 1-year, 2-years, 3-years, 4-years, and 5-years, respectively. The table 1 shows the dialysis nurse supply model in the four countries.

In each country, the dialysis nurse demand model has been built based on the total population and the total number of patients requiring dialysis; incidence of patients requiring dialysis; incidence of dialysis modality distribution (i.e., in-center hemodialysis, peritoneal dialysis, and home hemodialysis); drop-out and transplant rate; dialysis nurse labor requirements by modality (per patient); and dialysis nurse supply. The data needed to estimate the demand for nurses has been adapted from Himmelfarb et al (3); ERA Registry (4); and Kramer et al (5).

CONCLUSIONS

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Being able to accurately estimate the dialysis nurses demand will help to implement proactive policies and strategies that limit the clinical impact of this issue, including measures to increase the recruitment of dialysis nurses and optimizing the nurse:patient ratio by developing

Table 1. Overview of the dialysis nurse supply model in the four western European countries over a 5-year period. The countries have been listed in alphabetical order (NA = non applicable)

	France					
	Current	Year-1	Year-2	Year-3	Year-4	Year-5
Dialysis Nursing Staff Required	12,255	12,375	12,534	12,730	12,962	13,229
Dialysis Nursing Staff Growth Rate	N.A.	1%	1%	2%	2%	2%
Dialysis Nursing as Proportion of all Nurses	2.1%	2.2%	2.4%	2.6%	2.8%	3.0%
	Italy					
	Current	Year-1	Year-2	Year-3	Year-4	Year-5
Dialysis Nursing Staff Required	9,491	9,658	9,829	10,013	10,216	10,438
Dialysis Nursing Staff Growth Rate	N.A.	2%	2%	2%	2%	2%
Dialysis Nursing as Proportion of all Nurses	2.6%	2.7%	2.8%	2.9%	3.0%	3.1%
	Spain					
	Current	Year-1	Year-2	Year-3	Year-4	Year-5
Dialysis Nursing Staff Required	5,167	5,188	5,227	5,285	5,365	5,467
Dialysis Nursing Staff Growth Rate	N.A.	0%	1%	1%	2%	2%
Dialysis Nursing as Proportion of all Nurses	1.7%	1.8%	1.8%	1.8%	1.9%	2.0%
	United Kingdom					
	Current	Year-1	Year-2	Year-3	Year-4	Year-5
Dialysis Nursing Staff Required	8,684	9,240	9,793	10,345	10,896	11,446
Dialysis Nursing Staff Growth Rate	N.A.	6%	6%	6%	5%	5%
Dialysis Nursing as Proportion of all Nurses	1.5%	1.6%	1.7%	1.8%	1.9%	2.0%

homecare treatments.

P-74 - Preventing Encapsulating Sclerosing Peritonitis In Peritoneal Dialysis With Tamoxifen - A Single Center Experience

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OBJECTIVES

Encapsulating sclerosing peritonitis (ESP) is a serious complication of peritoneal dialysis (PD). Tamoxifen is a selective estrogen modulator that has antifibrotic properties and has been used in the treatment of various fibrotic syndromes, including ESP. Beyond early interventions to prevent peritoneal inflammation such as using biocompatible solutions, RAS inhibition and avoiding peritonitis episodes, we also administered Tamoxifen in high-risk patients. The aim of this retrospective cohort observational study was to evaluate the use of tamoxifen in patients with high-risk of ESP, before its onset.

METHODS

We performed a single-center retrospective cohort study including PD patients that were under PD between 2011 and 2023 in our Unit. Demographic and clinical data were collected from electronic records. The parameters evaluated were clinical data, serum biomarkers and dialysis adequacy. We defined high risk of EPD as those with at least two of these criteria: PD vintage greater than 5 years, use of hypertonic solutions, acquired ultrafiltration failure, peritonitis episodes, and hemodialysis access failure and transplant contraindications. We reviewed peritoneal equilibration tests (PETs) performed before and after tamoxifen treatment.

RESULT

Twenty-five prevalent PD patients were enrolled. Eighteen patients were male (72%); with a median age of 66 (AIQ 35) years, median PD vintage was 61 (AIQ 42,5) months, median follow-up was 47 months (IQR 75), 8 diabetics, 14 patients under automated PD (56%), median volume of PD solution per day of 9,0 (AIQ 2,0) liters, 15 patients used icodextrin solution, 9 patients used hypertonic intraperitoneal solution and median basal D/PCr was 0.67 (AIQ 0,15). During the follow-up, 7 patients dropped out because of inadequate dialysis efficacy and 5 for other reasons and started hemodialysis, 5 were transplanted, 5 patients died and 3 remained on PD. There were two patients who developed ESP under tamoxifen prophylaxis: one was on PD for 41 months and the other was on PD for 70 months before starting prophylaxis. In this period, we did not identify any adverse effects of tamoxifen use. The median ultrafiltration volume in the PEF

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prior to tamoxifen was 600 (AIQ 300) mL and decreased to 500 (AIQ 190) mL after this treatment initiation, however this decrease was not statistically significant. On the other hand, there was a statistically significant decrease in Kt/V before and after tamoxifen treatment (1,86 vs 1,69, p=0,012) but not regarding the creatinine ratio or nPCR. The decrease in Kt/V after the tamoxifen might be due to time in PD, since the PET tests were performed at least one year apart.

CONCLUSIONS

Although it is not a comparative and randomized study, our results should open the reflection about the potential benefit of using preemptive tamoxifen in patients with high-risk of EPS as a way of preventing it, namely for those to whom PD is the unique renal replacement therapy available. Prospective randomized studies with longer follow-up periods should be performed to address this hypothesis.

P-75 - Peritoneal Dialysis After Kidney Transplant Failure. A Single Center Experience

Christina Melexopoulou[1], *Evangelia Rokka*[1], *Garyfallia Kardara*[1], *Kalliopi Vallianou*[1], *Maria Korogiannou*[1], *Eleni Marki*[1], *Panoraia Paraskeva*[2], *Smaragdi Marinaki*[1]

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OBJECTIVES

Patients with failing kidney allografts progress to end stage renal disease. Only a few of these patients undergo peritoneal dialysis (PD). The aim of this study was to determine whether PD is a safe and beneficial modality for these patients.

METHODS

Retrospective single-center study of patients who underwent PD after kidney transplant failure in our center. PD-related complications, peritonitis occurrence rate, residual renal function at one year after PD initiation, as well as patient and technique survival during follow-up were recorded.

RESULT

During a 12-year period (2010-2022), 225 patients from our renal transplant unit developed ESRD due to allograft failure. Only 10 patients (4.4%) underwent PD as renal replacement therapy. The mean age was 40 years and 60% were female. Median time from transplantation to ESRD was 10 years. All patients discontinued immunosuppression except for low dose methylprednisolone that was sustained at 4mg for 6 months after PD initiation. At one year after PD onset, 50% of patients had residual diuresis at least 1lt/day. One patient underwent graft nephrectomy 3 months after PD initiation due to chronic inflammation. The peritonitis rate per patient year was 0,5. Mean PD duration was 3.1years [1-13y] at the end of follow-up. Over the study period 1 patient died (5years on PD-peripheral vascular disease), 8 were transferred to hemodialysis (4 due to peritonitis, 2 due to ultrafiltration failure, 1 due to catheter dysfunction, 1 due to social problems) and 1 re-transplanted.

CONCLUSIONS

Peritoneal dialysis remains rarely used after allograft failure. Our findings indicate that PD may be an alternative renal replacement therapy for patients with failing allografts who prefer a home-based modality.

P-76 - Who Said «Impossible»?

Natalia Menéndez García[1], *María Moreno Gijón*[1], *Vanesa Alonso Fernández*[1], *Carmen Rodríguez Suárez*[1], *Adriana Cavada Bustamante*[1], *Clara Sanz García*[1], *Mateo García Ramos*[1], *Jose Luis Rodicio Miravalles*[1], *Elena Astudillo Cortés*[1]

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OBJECTIVES

The prevalence of advanced heart failure (HF) is increasing and peritoneal ultrafiltration represents a good option for selected patients with HF refractory to optimized medical treatment. The literature lists as a contraindication the presence of irreparable abdominal hernias before the start of the technique.

METHODS

A 72-year-old male heart transplant recipient with advanced HF (LVEF <25%) and CKD 3b secondary to type II cardiorenal syndrome. Despite tolerated optimized treatment, the patient remains in NYHA functional class 4, with multiple hospital admissions due to decompensation of his congestive HF. Therefore, we consider that he could benefit from inclusion in a peritoneal dialysis ultrafiltration program. However, he had a large subxiphoid eventration and was not a candidate for eventroplasty due to high surgical risk. After evaluating the risk-benefit of surgery, it was finally decided to place a Swan Neck double cuff catheter by mini laparotomy with sedation and local anesthesia.

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RESULT

From the beginning of the technique and with only one nocturnal exchange with Icodextrin, the patient presents disappearance of dyspnea and orthopnea, weight loss, decrease of edemas and increase of appetite. He walks with the help of a cane (previously in a wheelchair) and reaches NYHA 2. During the first year, he does not present new episodes of decompensation of his HF, does not require hospitalization, and does not undergo infectious or mechanical complications associated with the technique.

CONCLUSIONS

The major benefit of peritoneal ultrafiltration as palliative treatment in advanced HF is the improvement in quality of life as measured by the reduction in the frequency of hospital admissions and the increase in autonomy. With this case, we wish to emphasize the importance of individualizing treatment for each patient and daring to question established contraindications in special situations.

P-77 - Peritoneal Dialysis Slows Down The Rate Of Decline Of Residual Kidney Function In Patients With End Stage Renal Disease

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OBJECTIVES

Only a few studies have investigated the impact of dialysis on the progressive loss of RKF in uraemic patients. We conduced a single-center, retrospective study to explore the time-course of residual GFR in the period between 1 year before and 1 year after the start of PD.

METHODS

Adult patients treated by PDas first renal replacement therapy betweenJan 1, 2016 and Dec 31, 2022, with at least one available GFR measurement at 12 months before, at start of and at 12 months after the start of dialysis were included. The GFR was calculated as the mean of creatinine and urea clearance, corrected for the body surface area.

RESULT

Twenty-two patients entered in the study (Tab 1). A significant lower mean rate of GFR decline was observed during the PD period (Tab 2). Only six patients had a faster decline of GFR after starting PD (Fig 1) and only two patients had an increase greater than 0.1 ml/

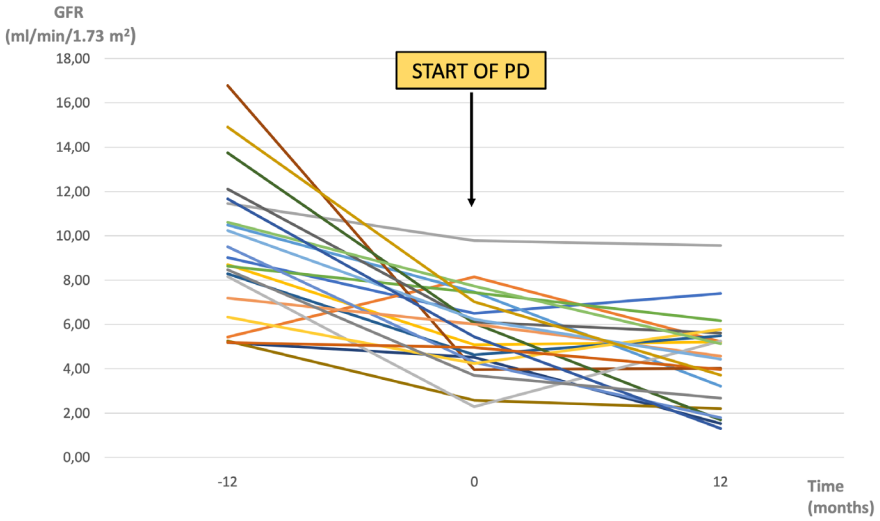

Fig 1. Time-course of GFR from 1 year before to 1 year after start of PD in all the patients studied

min/1.73 m2/month. Start of PD at an younger age or at lower GFR values were predictors of a significant lower decline of GFR during PD-period Tab 3). However, a trend to an advantageous effect was detected in each subgroup where it had no treached a statistical significance. Older patients showed a slower loss of GFR in the pre-PD period compared to their younger counter parts.

CONCLUSIONS

The mean rate of decline of GFR was slower in the first year after start of PD than in the previous 12 months. Such an effect was not

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Demographic and clinical data of the patients included in the study	
Number of patients	22
Age (years; mean± SD)	62.6± 12.4
Male/female (male %)	16/6 (72.7)
Arterial hypertension treated pharmacologically (%)	22/22 (100)
ACEi/ARBs use in the12 months before start of PD (%)	12/21 (57.1)
ACEi/ARBs use in the 12 months following start of PD (%)	11/20 (55.0)
CAPD/APD (CAPD %)	10/12 (45.5)
PD full/incremental (PD full %)	12/10 (54.5)
Diabetes (%)	8/22 (36.4)
Other comorbidities * at the start of PD (%)	12/22 (54.5)
Clinical events potentially threating the GFR ** after the start of PD (%)	11/22 (50.0)

* Obesity, ischemic heart disease, chronic heart failure, chronic peripheral arteriopathy, diabetes
** Surgery, cardiovascular events, peritonitis, ECF volume depletion, i.v or i.a. radiocontrast dye, NSAIDS, i.v or i.m. aminoglicoside antibiotics

Tab 1. Demographic and clinical data of the patients included in the study

Time-course of GFR and its rate of decline from 1 year before to 1 year after start of PD	
GFR (ml/min/1.73 m² ± DS) 12 mo. before start of PD	9.43 ± 3.10
GFR (ml/min/1.73 m² ± DS) at start of PD	5.65 ± 1.81
GFR (ml/min/1.73 m² ± DS) 12 mo. after start of PD	4.36 ± 2
Rate of loss of GFR before PD (ml/min/month)	-0.32± 0,271
Rate of loss of GFR after PD (ml/min/month)	-0.11± 0,164

Tab 2 . Mean time-course of GFR and its rate of decline from 1 year before to year after start of PD

Variable		Rate of decline of GFR pre –PD (ml/min/1.73 m²/month)	Rate of decline of GFR post –PD (ml/min/1.73 m²/month)	p
all		-0.32± 0,271	-0.11± 0,164	**0.006**
Age (years)	> 61	-0.19± 0.189	-0.16± 0.127	0.657
	≤ 61	-0.42± 0.291	-0.07± 0.185	**0.002**
	p	**0.038**	0.190	
GFR at start PD (ml/min/1.73 m²)	> 5.73	-0.27± 0.247	-0.17± 0.134	0.221
	≤ 5.73	-0.36± 0.287	-0.05± 0.172	**0.014**
	p	0.427	0.100	
Diabetes mellitus	yes	-0.28± 0.211	-0.09± 0.121	0.060
	No	-0.34± 0.306	-0.12± 0.188	0.042
	p	0.622	0.737	
ACEi/ARBs 12 mo. before start PD	yes	-0.35± 0.345	-0.14± 0.164	0.078
	no	-0.28± 0.160	-0.03± 0.136	**0.022**
	p	0.553	0.122	
ACEi/ARBs 12 mo. after start PD	yes	-0.32± 0.362	-0.13± 0.173	0.125
	no	-0.27± 0.144	-0.08± 0.173	0.062
	p	0.664	0.493	
PD (CAPD vs APD)	CAPD	-0.25± 0.185	-0.16± 0.171	0.281
	APD	-0.37± 0.326	-0.06± 0.153	**0.011**
	p	0.325	0.192	
PD (full vs incremental)	full	-0.32± 0.349	-0.11± 0.191	0.102
	increm.	-0.30± 0.149	-0.10± 0.135	**0.004**
	P	0.861	0.916	
Comorbidity at baseline	yes	-0.34± 0.209	-0.17± 0.152	**0.016**
	no	-0.29± 0.341	-0.03± 0.154	0.094
	p	0.662	0.056	

significant in older patients and in patients beginning dialysis at higher GFR values. Older patients showed a slower decline of GFR in the predialytic period. May be nephrologists have to take these aspects into account when timing the beginning of PD in their patients.

P-78 - "Peritoneal Volume Influence On Bedside Ultrasound Or Point-Of-Care Ultrasonography (Pocus) Volume Assessment In Peritoneal Dialysis Patients"

María Muñiz Rincón[1], *Diego Barbieri Merlo*[1], *Virginia López de la Manzanara Pérez*[1], *Cristina Riaza Ortiz*[1], *Arianne Sofía Aiffil Meneses*[1], *Rómulo Katsu Loayza López*[1], *Carlos Fernández Fernández*[1], *Nancy Daniela Valencia Morales*[1], *Jose Antonio Herrero Calvo*[1]

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OBJECTIVES

To study the variations in hydrosaline overload ultrasound parameters using PoCUS in PD patients with full and drained peritoneum and their correlation with clinical parameters.

METHODS

PoCUS and intra-abdominal pressure (IAP) measurements were performed on included patients with a full peritoneum. After drainage, a new PoCUS and a bioimpedance analysis (BIA) were conducted.

RESULT

Seventeen patients were included: 70.6% male, mean age 66+/-9.5 years. 65% had hydrosaline overload >1L as assessed by BIA. The mean IAP was 15+/-3.9 mmHg. The maximum diameter of the IVC with full and drained peritoneum was 1.44 +/- 0.35 cm and 1.53 +/- 0.4 cm, respectively, with no significant difference (p=0.179). The % collapsibility of IVC with full and drained peritoneum was 49 +/- 23% and 47 +/- 13%, respectively, with no significant difference (p=0.58). Kerley B-lines with full peritoneum were 1.3+/-1.5, and with

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drained peritoneum were 0.71+/-1.16, with this difference approaching statistical significance (p=0.063). The same analyses in subgroups of patients with volume overload by BIA (OH>1 or OH/ECW>15%) did not show significant differences. In the correlation analysis of variables, IAP and peritoneal dialysis fluid volume per m2 of body surface did not correlate with the diameters or collapsibility of IVC with full or drained peritoneum. The degree of overhydration by OH (L) correlated with IVC collapsibility with drained peritoneum (Spearman ϱ= -0.43; p=0.08), as did the overhydration by OH/ECW (Spearman ϱ=-0.61; p=0.02). These correlations disappeared with full peritoneum (p>0.05). The same correlation analyses were performed in subgroups of patients with volume overload by BIA (OH>1L or OH/ECW>15%) and were not significant with either full or drained peritoneum.

CONCLUSIONS

We did not find significant differences in the ultrasound volume overload parameters with full vs. drained peritoneum in PD patients. However, indirect data indicate a lower sensitivity of PoCUS to hydrosaline overload with a full peritoneum.

P-79 - A Monitoring Device For Personalized Peritoneal Dialysis Treatment

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OBJECTIVES

As the world population grows older, the probability of developing conditions such as type 2 diabetes, obesity, and cardiovascular diseases increases, and such factors impact the development of chronic kidney disease (CKD). As a result, it often leads to end-stage kidney disease (ESKD) when the patient's kidneys cannot properly filtrate blood to remove waste products and produce urine.
Dialysis treatments can be carried out either in dialysis centers or at home. Dialysis centers are still the most common option, however, the choice for home dialysis is steadily rising. E.g., peritoneal dialysis (PD) provides patients with greater lifestyle flexibility and independence than being treated in dialysis centers.
Until now, no continuous monitoring device exists to check the real-time PD treatment's efficacy. The patient waits 6 to 12 weeks (ISPD guidelines) for a check-up when the blood and PD fluid samples are analyzed in a clinical lab to investigate the PD parameters.

METHODS

Our proposed method is a novel monitoring device that continuously measures glucose, creatinine, and urea levels during PD treatment. A microfluidic flow sensor clamps on the drain line from the PD cycler, samples the waste fluid every cycle, and sends the real-time values to the cloud-based system.

RESULT

The monitoring device includes a microfluidic cassette with selected sensors and a reader device for data acquisition. The information is transmitted to a secure cloud for real-time data processing and visualized by our developed digital app. Patients and clinicians can connect to the cloud at any time and check how the PD treatment is proceeding in terms of effectiveness, efficacy, and efficiency.

CONCLUSIONS

Our solution is unique in the market. Our goals are first to provide a better treatment outcome for ESKD patients and second to support clinicians in improving dialysis treatments for each patient toward personalized treatment.

P-80 - The Impact Of Daily Exchanges Number At Capd Start On Major Clinical Outcomes

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OBJECTIVES

Peritoneal dialysis (PD) continues to be demanding for patients affected by kidney failure. In kidney failure patients with residual kidney function, the employment of incremental peritoneal dialysis, a less onerous dialytic prescription, could translate into a decrease burden on both health systems and patients. However, data regarding the relationship of the number of continuous ambulatory PD (CAPD) exchanges at PD start with the main clinical outcomes are still scarce.

METHODS

Between 1st January 2009 and 31st December 2021, 182 patients who started CAPD at our institution were included in the study (figure 1). The CAPD population was divided into three groups according to the initial number of daily CAPD exchanges prescribed: one or two (50 patients, CAPD-1/2 group), three (97 patients, CAPD-3 group) and four (35 patients, CAPD-4 group), respectively (table 1).

RESULT

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Table 1. Basic clinical characteristics of one hundred and eighty-two patients treated with continuous ambulatory peritoneal dialysis

	Patients (n=182)	2 Exchanges (n=50)	3 Exchanges (n=97)	4 Exchanges (n=35)	P value
AGE years [mean ± SD]	61.6 ± 16.3	60.3 ± 15.1	64 ± 15.4	58 ± 20	0.19
GENDER male [n(%)]	118 (64.8)	34 (68)	58 (59.8)	26 (74.3)	0.26
DIABETES [n(%)]	34 (18.7)	8 (16)	19 (19.6)	7 (20)	0.86
CAD [n(%)]	27 (14.8)	6 (12)	16 (16.5)	5 (14.2)	0.76
CVD [n(%)]	27 (14.8)	8 (16)	13 (13.4)	6 (17.1)	0.36
COPD [n(%)]	22 (12.1)	3 (6)	15 (15.5)	4 (11.4)	0.25
MALIGNANCY [n(%)]	25 (13.7)	6 (12)	13 (13.4)	6 (17.1)	0.79
HEART FAILURE [n(%)]	14 (7.7)	5 (10)	7 (7.2)	2 (5.7)	0.74
LIVER DISEASE [n(%)]	16 (8.8)	3	12 (12.4)	1 (2.9)	0.17
BMI kg/m2 [median (IQR)]	23.6 (21.3-26.2)	22.9 (21.1-25.1)	23.6 (20.8-26.8)	24.8 (22.1-26.4)	0.1
mCCI [median (IQR)]	4 (1-6)	3 (1-6)	4 (1-6)	3 (1-6)	0.64
RENAL DISEASE					
Hypertensive nephropathy [n(%)]	53 (29.1)	14 (28)	31 (31.9)	8 (22.9)	0.58
Glomerulonephritis [(n%)]	44 (24.2)	11 (22)	25 (25.8)	8 (22.9)	0.86
Diabetic nephropathy [n(%)]	22 (12.1)	4 (8)	13 (13.4)	5 (14.3)	0.58
ADPKD [n(%)]	13 (7.1)	7 (14)	5 (5.2)	1 (2.9)	0.08
Multiple myeloma [n(%)]	7 (3.8)	2 (4)	4 (4.1)	1 (2.9)	0.12
Uknown [n(%)]	18 (9.9)	7 (14)	6 (6.2)	5 (14.3)	0.2
Others [n(%)]	25 (13.7)	5 (10)	13 (13.4)	7 (20)	0.42
FOLLOW UP TIME months [median (IQR)]	30.1 (15.2-50.7)	37.6 (16.3-51.5)	25.9 (13-39.5)	45.8 (11.6-68.8)	0.02
RKF ml/min/1.73m2 [mean ± SD]	6.1 ± 3.6	7.5 ± 3.3	6 ± 3.7	4 ± 2.8	< 0.001
DIURESIS VOLUME ml [mean ± SD]	1184 ± 680	1532 ± 629	1112 ± 620	885 ± 721	< 0.001
KT/V total [mean ± SD]	2.44 ± 0.71	2.5 ± 0.81	2.5 ± 0.74	2.32 ± 0.54	0.5
KT/V urinary [mean ± SD]	1.16 ± 0.73	1.54 ± 0.75	1.15 ± 0.69	0.65 ± 0.49	< 0.001
KT/V peritoneal [mean ± SD]	1.28 ± 0.55	0.96 ± 0.53	1.3 ± 0.5	1.68 ± 0.39	< 0.001
D/P [mean ± SD]	0.67 ± 0.13	0.62 ± 0.13	0.68 ± 0.13	0.7 ± 0.12	0.4
G/G0 [mean ± SD]	0.24 ± 0.09	0.26 ± 0.1	0.23 ± 0.08	0.22 ± 0.1	0.2
ΔNa [mean ± SD]	7.8 ± 4.1	8.4 ± 4.1	7.7 ± 4	7.4 ± 4.2	0.59
UF litres [mean ± SD]	0.64 ± 0.33	0.68 ± 0.34	0.62 ± 0.34	0.6 ± 0.29	0.65

ADPKD = autosomal dominant polycystic kidney disease; BMI = body mass index; CAD = coronary artery disease; COPD = chronic obstructive pulmonary disease; CVD = cerebral vascular disease; D/P = ratio of the concentrations of creatinine in dialysate/plasma; G/G0 = ratio between the concentrations of glucose at the end/beginning of the test; IQR = interquartile range; mCCI = modified Charlson comorbidity index for peritoneal dialysis patients according to Cho et al19; n = number of patients; PD = peritoneal dialysis; RKF = residual kidney function; SD = standard deviation; UF = peritoneal ultrafiltration; △Na = Sodium sieving: change in the Na concentration in the fresh dialysate solution and after 60 minutes of testing.

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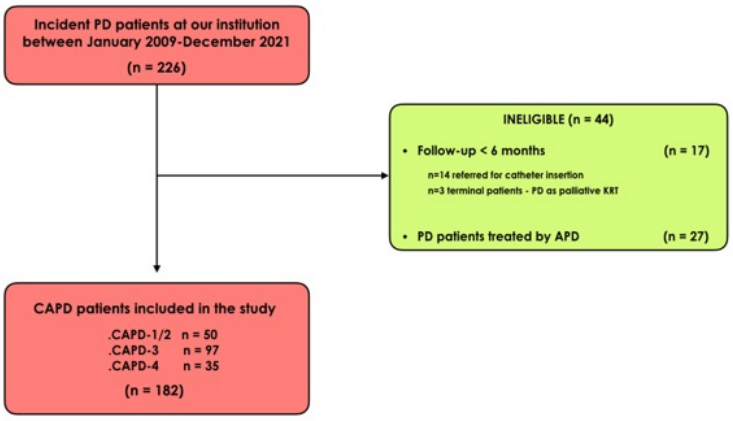
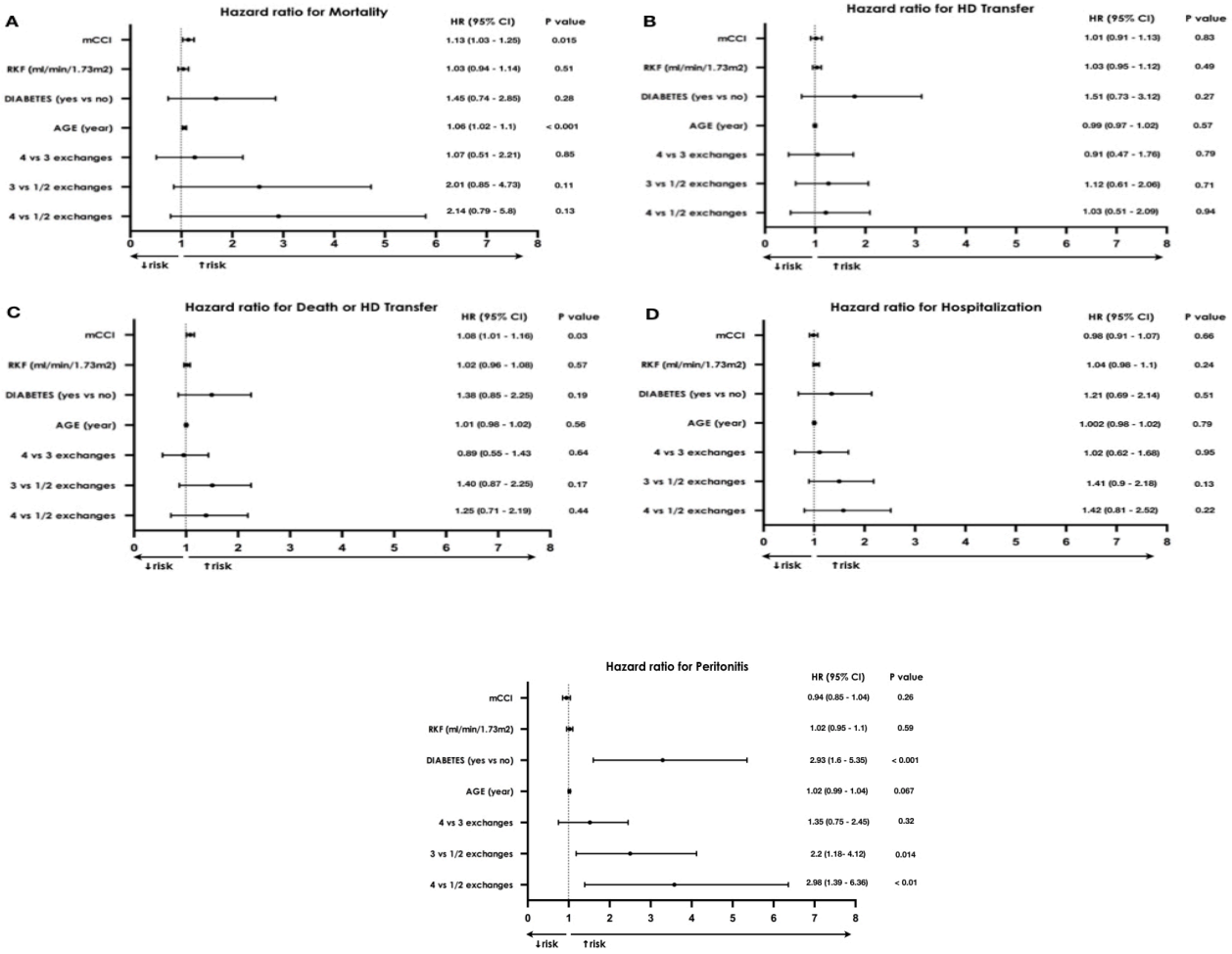


Figure 1 STROBE flow diagram representing the 182 eligible patients.

APD = automated peritoneal dialysis; CAPD = continuous ambulatory peritoneal dialysis; n = number; PD = peritoneal dialysis; KRT = kidney replacement therapy.

Multivariate analysis showed a difference in term of peritonitis free survival in CAPD-1/2 in comparison to CAPD-3 (HR 2.20, p = 0.014)



and CAPD-4 (HR 2.98, p < 0.01) (figure 2). A tendency toward a lower hospitalisation rate (CAPD-3 and CAPD-4 Vs CAPD-1/2, p = 0.11 and 0.13, respectively) and decreased mortality (CAPD-3 and CAPD-4 Vs CAPD-1/2, p = 0.13 and 0.22, respectively) in patients

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who started PD with less than 3 daily exchanges was detected. No discrepancy of the difference of the mean values between baseline and 24 months residual kidney function was observed among the three groups (p = 0.33) (figure 2).

CONCLUSIONS

One or two-exchange CAPD start resulted in a lower risk of peritonitis in comparison to three or four-exchange start. Furthermore, an initial PD prescription with less than three-exchanges may be associated with an advantage in term of hospitalization rate and patient survival.

P-81 - Expert System Application To Video Peritoneal Dialysis Training – Preliminary Results

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OBJECTIVES

From 01/10/17 the Training carried out in Videodialysis (VD-Tr) is associated with a standardized expert system (VD-Tr/ES) through the fragmentation of the dialysis procedures into elementary steps, the definition of errors and the criteria of successful learning.
As of 05/31/23 more than 70 VD-Tr/ES have been performed.
We report the preliminary analysis limited to the APD

METHODS

A. The VD-Tr/ES. The Training to the APD consists of 3 procedures: preparation, connection and disconnection. Each procedure consists of a succession of individual steps. For each step the correctness or otherwise of its execution is recorded. If no errors are made for 3 consecutive procedures, the Training is over. After 1 and 2 weeks, two checks are carried out: if OK, the Training is concluded.
B. VD-Tr/ES considered. The FIRST Training to APD completed without interruption to patient (pt) or caregiver (CG).
C. Analyses. The pts were then divided into 3 groups according to the duration of the Training: ≤5 (A); between 6 and 10 (B); >10 procedures (C) and differences between groups were verified.
D. For each procedure, the frequency of errors associated with the single steps was evaluated.

RESULT

33 VD-Tr/ES relating to 27 patients (70.3±15.1 years - M 51.9%) were considered.
Training to APD were performed on 8 patients and 25 CGs (17 family members) of 19 patients.
A longer duration of the training is associated with greater age (Group A: 46.9±12.3 - Group C: 59.3±10.3 years) different native language (A: 11.1% - B: 61.5%), selfcare PD (A: 11.1% - C: 45.5%) and with the number of errors committed in the initial phase of the training.
The frequency of errors was different for the different steps.

CONCLUSIONS

The ES allows you to standardize the Training, suggest its duration and identify the most frequent errors, improving its effectiveness.

P-82 - CANCELLED

P-83 - Analysis Of Psychometric Properties Among Generic Health-Related Quality Of Life Surveys: Euroqol-5d-5l, Short Form 12 And Short Form 36 In Patients With Advanced Chronic Kidney Disease

Juan Perez Martinez[1], *Agustin Ortega Cerrato*[1], *Javier Centellas Perez*[1], *Samuel Blas Gomez*[1], *Rocio Gonzalez Cano*[1], *Ivan Garcia Alfaro*[1], *Manuel Geronimo Pardo*[2], *Carmen Selva Sevilla*[2]

University Hospital Of Albacete[1], *University of Castilla-La Mancha*[2]

OBJECTIVES

Assessing Health-Related Quality of Life through preference-based generic questionnaires in patients with Advanced Chronic Kidney Disease (ACKD) is important as far as it enables health economic evaluations. The objective is to analyze the psychometric properties of the generic surveys EuroQoL-5D-5L (EQ-5D-5L), Short Form 12 version 2 (SF-12), and Short Form 36 version 2 (SF-36) to determine the most suitable one for ACKD patients.

METHODS

This observational, descriptive, and prospective study was approved by the hospital's Ethics and Drug Research Committee. All the three questionnaires were completed by 92 adult patients, either in Advanced CKD stage (n = 30) or those undergoing Hemodialysis (HD, n = 29) or Peritoneal Dialysis (PD, n = 33) for more than three months. Utility scores with Spanish rating (utility 0 = death; utility 1 = full health), ceiling and floor effects, and internal consistency (Cronbach's alpha) were calculated for each survey. Correlations

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(Spearman's rho) and agreement levels (Lin's Concordance Correlation Coefficient [Lin-CCC] and Bland-Altman plots) between utilities and dimensions of the three surveys were analyzed.

RESULT

The median utilities [interquartile range] for EQ-5D-5L, SF-12, and SF-36 were 0.773 [0.632-0.932], 0.636 [0.506-0.804], and 0.602 [0.355-0.782], respectively. The best internal consistency was found in EQ-5D-5L (alpha=0.82), followed by SF-36 (alpha=0.69), and SF-12 (alpha=0.47). EQ-5D-5L was the only survey with a ceiling effect (22.8% of responses). The utilities from all three surveys showed strong correlations (rho>0.70) with each other, but the level of agreement among them was poor (mean differences between utilities >0.3; Lin-CCC ranging from 0.621 to 0.742) with a predominance of systematic error over random error (Bland-Altman plot).
A strong correlation (rho>0.60) was observed between all dimensions of SF-12 and SF-36, but with poor agreement. The dimensions of EQ-5D-5L showed weaker correlations and agreement with those of SF-12 and SF-36.

CONCLUSIONS

There was no agreement among the three surveys, neither in utilities nor in different dimensions, making the choice of the survey crucial for measuring the quality of life of these patients. EQ-5D-5L showed a ceiling effect, so we would recommend using SF-12 or SF-36 depending on time availability.

P-84 - Quality Of Life In Patients With Chronic Kidney Disease: Importance Of The Transition From Advanced Ckd To Dialysis

Juan Perez Martinez[1], *Agustin Ortega Cerrato*[1], *Javier Centellas Perez*[1], *Samuel Blas Gomez*[1], *Rocio Gonzalez Cano*[1], *Ivan Garcia Alfaro*[1], *Manuel Geronimo Pardo*[2], *Carmen Selva Sevilla*[2]

University Hospital Of Albacete[1], *University of Castilla-La Mancha*[2]

OBJECTIVES

Chronic kidney disease can deeply impact on patients' quality of life, so an accurate information, proper selection, and preparation is important. We present here preliminary results from a descriptive comparative study of the quality of life in patients with Advanced Chronic Kidney Disease (ACKD) or undergoing dialysis, either Hemodialysis (HD) or Peritoneal Dialysis (PD).

METHODS

This was an observational, descriptive, prospective study approved by the Ethics and Drug Research Committee.
Generic health questionnaires, EuroQoL-5D-5L (EQ-5D-5L), and Short Form 36 version 2 (SF-36v2) were completed by 92 patients (ACKD, n = 30; HD, n = 29; PD, n = 33).
The EQ-5D-5L consists of 5 dimensions (Mobility, Self-care, Usual Activities, Pain/Discomfort, Anxiety/Depression), and a question about self-perceived health status on a scale from 0 to 100, referring to the day of questionnaire completion.
The SF-36v2 refers to the previous month. It consists of 36 questions grouped into 8 dimensions: Physical Functioning, Physical Role, Body Pain, General Health, Vitality, Social Functioning, Emotional Role, and Mental Health.
Spanish ratings were used to calculate utility for both surveys. Utility ranges from 0 to 1, where 0 represents death and 1 represents full health.

RESULT

The differences in the results obtained among the three groups were not statistically significant for either utility value or any of the respective dimensions (Table).

CONCLUSIONS

	Total n=92	ACKD n=30	HD n=29	PD n=33	p-valor
Men (%)	68,5	66,7	75,9	63,6	0,567 [a]
Age (years)	69 [57-77]	68 [53-78]	70 [62-79]	65 [57-74]	0,488 [b]
EQ-5D-5L Utility	0,7735 [0,6325-0,9320]	0,7445 [0,6040-1,000]	0,8000 [0,6690-0,9100]	0,7610 [0,6480-1,000]	0,994 [b]
SF-36v2 Utility	0,6025 [0,3555-0,7825]	0,6265 [0,3690-0,7970]	0,6020 [0,3830-0,7930]	0,5490 [0,3550-0,7720]	0,681 [b]

The results support the theory that proper patient selection and preparation may allow maintaining a similar quality of life to the previous one, despite the initiation of renal replacement therapy. Therefore, investing in Advanced Chronic Kidney Disease clinics has a positive impact on our patients.

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P-85 - Design Of A New Regimen For SCPD (Steady Concentration Peritoneal Dialysis) And Preliminary Trial Of Its Results Compared To 4.25%/3.86% Glucose.

Vicente Pérez-Díaz[1,2], *Alicia Sobrino-Pérez*[3,4], *Alfonso Pérez-Escudero*[5], *Luisa Sánchez-García*[6], *Ana-Lucía Valencia-Peláez*[1], *Victoria Oviedo-Gómez*[7], *Esther Hernández-García*[7], *Sandra Sanz-Ballesteros*[1]

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OBJECTIVES

SCPD (Steady-Concentration-Peritoneal-Dialysis) is a simple technique to increase UF by slowly infusing hypertonic glucose (20-50%) during the dwell time of a PD exchange replenishing the absorbed glucose while maintaining constant intraperitoneal concentration and UF.

We introduce a new, more effective and safer regimen with these following criteria:
1) Stabilize glucose concentration around 1.8%, adjusting the infusion rate to 20g/h.
2) Fill initially with 2.3%/2.27% glucose, resembling steady-state concentration.
3) Avoid excessive intraperitoneal pressure (IPP), which slows down UF. To this end, control (a) posture by keeping the patient in decubitus, (b) visceral filling through fasting and frequent urination, and (c). intraperitoneal volume (IPV) by using the minimum initial volume that ensures good peritoneal contact and dilution (1500mL), and draining 300mL hourly to compensate for UF.
4) To avoid low IPV if the hourly drains exceed the UF, limit exchanges to 3h.
5) Infuse 30% glucose to minimize volume input and local osmotic shock.
Our new regimen consists of 3h SCPD exchanges with 1500mL 2.3%/2.27% glucose, infusing 30% glucose at 20g/h, interrupted every hour to drain 300mL.

METHODS

In 2 patients we compared one SCPD exchange with a conventional PD exchange of 3h 1500mL 4.25%/3.86% glucose.

RESULT

UF was higher in SCPD compared to 4.25%/3.86% glucose (934 vs 505mL and 592 vs 409mL), and was higher in the patient with lower IPP (7.5 cmH2O vs 15cmH2O). SCPD maintained lower intraperitoneal glucose concentration than the regular PD exchange. Despite the 300ml drainages, SCPD always maintained IPV above 1375mL (besides residual volume), sufficient for peritoneal contact and dilution of the hypertonic infusion.

CONCLUSIONS

We present a new SCPD regimen that, in this very preliminary trial, achieves higher UF than 4.25%/3.86% glucose, with lower intraperitoneal glucose concentration. Hourly 300mL drains maintain adequate peritoneal volume to optimize UF while diluting the continuous infusion of glucose.

P-86 - *Mycobacterium Fortuitum* Peritoneal Dialysis Peritonitis. A Case Report And Literature Review

Garyfalia Perysinaki[1], *Andrew-Michael Passam*[2], *Christina Koulta*[3], *Panagiota Papadaki*[4], *Polykarpos Papanikolaou*[5], *Prof Georgia Vrioni*[6], *Irini Ntaountaki*[7]

Rethymnon General Hospital[1], *Molaoi Primary Care Unit*[2], *Medical School, National and Kapodistrian University of Athens*[3]

OBJECTIVES

Mycobacterium fortuitum (MF) a rapidly growing atypical acid fast bacilli, is a rare but serious cause of peritonitis in peritoneal dialysis (PD) Diagnosis might be delayed due to the rarity of the infection and the failure to be identified promptly by the standard procedures

METHODS

We describe a case of a 63-year-old male patient being treated for 10 years with automated peritoneal dialysis due to ADPKD who developed life threatening MF peritonitis. We review the available English literature in the aspect of the time required from symptoms to a definite diagnosis of MF peritonitis.

RESULT

In our case this was the ninth episode of peritonitis with the previous one just two months earlier. The patient presented with malaise,

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abdominal pain, low fever, cloudy peritoneal fluid (972 WBC/mm3 with 96% neutrophils) and highly elevated CRP. The pathogen was identified 26 days after the onset of symptoms by mass spectrometry and the cultures of peritoneal fluid had been positive 40 days under proper antibiotic therapy. Our patient was treated with prompt peritoneal catheter removal and treatment with iv amikacin and levofloxacin for a total of six months with adverse effect hearing loss. Two years later the patient is doing well in hemodialysis. We identified 22 articles from literature with 33 presenting cases. The time from symptoms to diagnosis is not mentioned in 17 cases. For the rest cases the median time was 8 days (range 4-32). Peritonitis in nearly all cases appeared an initial deterioration prior to the definite establishment of the diagnosis despite the appropriate empirical antibiotic therapy. In nearly all patients the catheter was removed due to non response to treatment before the identification of MF.

CONCLUSIONS

High suspicion for MF is needed for culture negative peritonitis which do not respond to the standard antibiotic therapy.

P-87 - Association Between Obesity And PD Peritonitis In Patients On Peritoneal Dialysis

òp Milica Petrović[1], *Violeta Rabrenović*[1], *koautor Dejan Pilčević*[1], *Brankica Terzić*[1], *Marijana Petrović*[1], *Milorad Radojević*[1], *Jelena Tadić*[1], *Mirjana Mijušković*[1], *Katarina Obrenčević*[1], *Neven Vavić*[1]

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OBJECTIVES

Peritonitis as a complication of peritoneal dialysis (PD) represents a very serious, life-threatening complication. Data on the association between PD peritonitis and obesity are contradictory. The aim of this research was to determine the connection between PD peritonitis and obesity in our patients.

METHODS

The study included a group of 40 patients treated with the PD method, average age 56.25±14.64, more often women were 24 versus 16 men. PD peritonitis was verified in 17 patients, more often of bacterial etiology in 16, and only one of fungal etiology. According to body mass index (BMI) they were divided into two groups. The first group were patients with normal nutrition, BMI < 24.9 kg/m2, and the second group were obese, BMI ≥ 25.0 kg/m2. We compared the frequency of PD peritonitis in both groups.All patients were examined for basic laboratory and biochemical parameters, and the presence of left ventricular hypertrophy.

RESULT

In the first group, there were 27 patients with BMI ≥ 25.0 kg/m2, average age 57.32±13.73, of which 12 were older than 65 years. 14 patients had PD peritonitis, and the average duration of PD treatment was 54.68±32.30 months. In the second group with BMI < 24.9 kg/m2, 13 of them, average age 54.11±14.55, of which 3 were older than 65 years, and 8 had PD peritonitis, the average duration of PD treatment was 39.68 months. Obese patients treated with PD have more frequent PD peritonitis, lower values of hemoglobin, albumin, calcium with elevated values of phosphorus, PTH, left ventricular hypertrophy and an increased risk for an unfavorable outcome of treatment with this method.

CONCLUSIONS

In the studied group of patients treated with PD, we observed a more frequent manifestation of PD peritonitis in obese patients, older patients and those with a longer history of treatment with this method.

P-88 - The Contribution Of Residual Renal Function On Improvement Of Nutritional Status In Peritoneal Dialysis Patients

Dejan Pilčević[1], *Violeta Rabrenović*[1], *Milica Petrović*[1], *Marijana Petrović*[1], *Neven Vavić*[1], *Zoran Paunić*[2]

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OBJECTIVES

The positive impact of residual renal function (RRF) on the total amount of weekly clearances of small molecules and surviving in peritoneal dialysis (PD) is well known. On the other hand, poor nutritional status in these patients is recognized as negative prognostic factor. In our study we analyzed impact of RRF on nutritional status in our patients.

METHODS

In 24 chronic PD patients with at least a 2-year history of PD treatment, RRF was determined by a daily diuresis more than 200ml. We analyzed nutritional parameters, such as percentage body fat, serum albumin concentration, creatinine, transferrin and normalized protein catabolic rate.

RESULT

Patients were classified into two groups: with RRF (mean, 550 ml; range, 210-2100 ml), N=11; and without RRF (mean, 37 ml; range,

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0-200 ml), N=13. Total Kt/V urea being equal in both groups- 2,12 ±0,2 and 2,05±0,1). There were no significantly difference in age, gender distribution, diabetes mellitus comorbidity, peritoneal membrane transport characteristic, percentage of body fat, transferrin, serum creatinine and albumin concentration. Total duration of dialysis and mean normalized protein catabolic rate in patients with RRF were 2,6±0,4 years and 1.12 g/kg/day, which were significantly (P=0.01) different than those in patients without RRF (4,8±0,5 and 0,94g/kg/day).

CONCLUSIONS

Almost half of our PD patients had sufficient RRF, majority with shorter duration on PD. In our study we have shown that RRF itself may have a beneficial effect on nutritional parameters what is perspective very important for positive treatment outcome of these patients.

P-89 - Skin Biopsy (Sb) In Calciphylaxis: Role And Limitations

Marcos Piris Gonzalez[1], *R. Haridian Sosa Barrios*[2], *Victor Burguera Vion*[3], *Fernando Caballero Cebrian*[4], *Miriam Dominguez Tejedor*[5], *Jorge Francisco Sanchez Iglesias*[6], *Cristina Campillo*[7], *Yolanda Gutierez*[8], *Milagros Fernanez Lucas*[9], *Maite E. Rivera Gorrin*[10]

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OBJECTIVES

Calciphylaxis is defined by calcification of cutaneous small blood vessels, resulting in ischemic lesions. It´s associated with high morbidity and mortality, being more common in dialysis patients. Although its diagnosis is mainly clinical, SB is the gold standard. However, it has limited sensitivity and is associated with local complications.
Our aim was analyzing SB diagnostic accuracy and complications in a cohort of patients with calciphylaxis.

METHODS

Patients with calciphylaxis between January 2001-February 2023 were included. We evaluated the performance, timing, usefulness and complications of SB.

RESULT

25 patients were diagnosed, 48% males, mean age of 63.7±14.2 years. 12 were on hemodialysis, 8 on peritoneal dialysis (PD), 3 were transplanted with functioning grafts and 2 predialysis.
Dermatologists performed 21 SB: 18 first biopsies and 3 rebiopsies. In 8 patients, diagnosis was clinical. 7/8 patients on PD underwent a SB procedure (p=0.16). Mean time from symptoms onset to SB was 23.8±16.5 days, and for those on PD 26±21.4 days (p=0.694).
76.2% (16) were punch biopsies and 5 deep spindle-shaped. 10 first biopsies (55.5%) and 100% of rebiopsies were diagnostic, giving a 61.9% overall diagnostic yield. Time to biopsy was longer when the initial SB was diagnostic (25 vs 22.14 days, p=0.722).
All post-SB lesions required wound care, along with calciphylaxis ulcers. Topical sodium thiosulfate was used in 4 patients. Mean wound treatment time was 16.41±13.56 weeks, being longer in patients with a favorable outcome (21.28 vs 8.48 weeks, p=0.051). Twelve patients developed local infectious complications (48%), 2/8 (25%) for patients on PD (p=0.12). Overall, 8 of them had undergone previous SB (47%).
One-year survival rate was 47.8% (50% for patients on PD).

CONCLUSIONS

SB is the confirmatory test for calciphylaxis, although it can be inconclusive and associated with complications. Further research is needed to expand our knowledge on the usefulness of imaging techniques, especially ultrasound.

P-90 - Benefits Of Incremental Peritoneal Dialysis In Our Unit: 2 Years Follow-Up

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OBJECTIVES

Observational retrospective study, analyzing the characteristics of incident patients from January to December 2019 in peritoneal dialysis program, collecting demographic variables, comparing the different dialysis schemes. Patients were followed followed at 6-month intervals, for 2 years after the start of the technique, including clinical variables (hypertension, diabetes, heart failure, etiology of kidney disease) and analytical (eGFR, diuresis, ultrafiltration volume, weight, Kt/V, hemoglobin and PTH values, EPO dose, hyperkalemia and infectious events).

METHODS

18 patients who started peritoneal dialysis in this period were selected. 4 of them, presented an ultrafiltration regimen included in Cardiorenal consultations, with eGFR>15 ml/min at the beginning of the technique, so they were excluded from the study. And 3 of

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them presented a scheme of non-incremental DPA start. 11 patients were included, who started some incremental scheme defined by the guidelines ISPD. Of them, 9 started CAPD and 2 DPA. The mean age was 70.5 years (CI 76.28-64.72), the 79% were male. 93% were hypertensive, 79% diabetic and 40% presented heart failure. The most frequent etiology of chronic kidney disease was vascular.

RESULT

During the monitoring, 2 were referred to transplantation and 1 was transferred to hemodialysis due to recurrent peritonitis, and 3 patients died. The average time in peritoneal dialysis was 20.4 months (CI 15.6-25.3). Monitoring the Kt/V obtained at 6 months, 12 months, 18 months and 24 months were respectively 2.26 (CI 1.59-2.95), 2.34 (1.67-3.02), 2.32 (1.52-3.12), 2.54 (1.42-3.64). No significant differences were found regarding the values of diuresis, ultrafiltration and weight in different years
during follow-up. Similar results of PTH and hemoglobin, although EPO requirements were higher in the second year. The incidence of hyperkalemia and infections was low.

CONCLUSIONS

Incremental peritoneal dialysis strategy is safe and offers an adequate dialysis dose, without implying harm in the patients studied in our unit. This strategy presents the benefits of a lower workload for the patient and caregiver. The infection rate was low in our unit, although possibly, as there is less manipulation of the system, incremental dialysis may result in a lower infection rate.

P-91 - Reasons Of Peritoneal Dialysis Discontinuation In Regional Center

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OBJECTIVES

To evaluate the Reasons of peritoneal dialysis (PD) discontinuation in a cohort of patients.

METHODS

This is a retrospective analysis of 96 patients who underwent PD catheter implantation during the period of 2016-2021 in Vilnius University Hospital Santaros Klinikos. Data used for the analysis was sex, age, reason of the end stage chronic kidney disease, date of the PD catheter implantation, date when the PD was started, reasons why PD catheter was removed. For analysis of the statistical data, we used IBM SPSS program.

RESULT

The sample consisted of 96 patients, 51 female and 45 males. The mean age was 50.1±15.8 years, age range 18-82 years. Determined causes of the end-stage kidney disease were hypertensive nephropathy 20.8% (n =20), chronic glomerulonephritis 15.6%, diabetic nephropathy 13.5%, IgA nephropathy 6.3%, hypertensive and diabetic nephropathy 5.2%, polycystic kidney and liver disease 4.2%, other/ unknown causes 34.4%. The mean span from PD catheter implantation to the start of PD was 37.6±49.0 days. Time between PD catheter implantation and removal ranged from 40 to 1767 days. Mean duration from PD catheter implantation till the removal was 629.3±470.4 days. Outcomes of PD were kidney transplantation 34.3 % (n =33), PD catheter still present 31.3% (n =30), patient died 11.5% (n =11), PD catheter removal due to recurrent peritonitis 6.3% (n =6), removal due to mechanical dysfunction 4.2% (n =4). Time from PD catheter implantation to initiation of PD was not associated with patient age or causative disease.

CONCLUSIONS

The majority of patients underwent renal transplantation or still continue PD. PD catheter removal rate due to recurrent peritonitis or mechanical problems was low. The limitation of this study was a small number of patients, and we were not able to identify reliable factors causing PD catheter dysfunction.

P-92 - Alpha Manoeuvre: Not Only For Disfunctional Peritoneal Catheters

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OBJECTIVES

Peritoneal catheter (PC) malfunction is one of the most frequent complications in peritoneal dialysis (PD). A correct tip position is essential for the proper function of both catheter and PD. A catheter is considered well positioned when its end is located in the Douglas cul-de-sac or, at least, in the lesser pelvis.
The alpha manoeuvre (α-M) is a simple, effective and safe technique to relocate malfunctioning displaced catheters. It consists on a flexible guide inserted into the catheter lumen and, under fluoroscopic surveillance, attempting to reposition the catheter in a better

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location.

METHODS

We present 2 cases in which α-M was used to reposition two well-functioning catheters.

RESULT

Case 1: A 78-year-old man with a peritoneal catheter that had been functional for 4 months consulted for severe pain in the right iliac fossa that prevented him even from walking. Abdominal examination was unremarkable, bowel habit was regular and peritoneal effluent normal. Abdominal X-ray and CT scan revealed an intraperitoneal catheter tip towards the right iliac fossa. The pain was refractory to analgesics and α-M was performed, moving the catheter tip slightly. Thereafter, pain progressively improved and disappeared completely on day 10 after the manoeuvre.

Case 2: A 42-year-old man presented with severe pain in the perineal region 2 months after starting PD. On physical examination abdomen was normal. The peritoneal catheter was functioning properly, bowel habit was regular and peritoneal effluent clear. An abdominal X-ray showed a peritoneal catheter tip within Douglas cul-de-sac. The α-M was performed repositioning the catheter tip out of the cul-de-sac with complete resolution of pain within a few days.

CONCLUSIONS

α-M is a useful and easy tool not only in case of PD catheter malfunction, but also for those catheters in a normal yet painful location.

P-93 - Migration Of Subcutaneous Cuff After Insertion Of A Peritoneal Dialysis Catheter: Secondary Analysis Of A Multicenter, Prospective Cohort Study

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OBJECTIVES

Background: We previously reported in a single-center, retrospective cohort study of a small number of patients that the subcutaneous cuff migrates toward the exit site after starting peritoneal dialysis (PD). To obtain further insight on subcutaneous cuff migration, we conducted a multicenter, prospective cohort study.

METHODS

Patients and Methods: The subjects were 211 incident PD patients (64.0±14.5 years old, 139 males, diabetes mellitus 38.4%) from 30 facilities nationwide. Subcutaneous cuff migration was defined as an increase in catheter length (length from the exit site to the lower end of the titanium adapter) one year after surgery compared to immediately after surgery. Subsequently, factors related to subcutaneous cuff migration were evaluated using multivariate analysis.

RESULT

The catheter length was 17.8±5.9 cm immediately after surgery compared to 18.7±6.0 cm one year after surgery, showing a significant increase ($p<0.001$). More patients with subcutaneous cuff migration had a non-embedded catheter (78.0% vs. 60.8%, $p=0.011$) and were on automated peritoneal dialysis (APD) (61.4% vs. 45.6%, $p=0.032$) compared to those without subcutaneous cuff migration. Multivariate analysis also showed that use of a non-embedded catheter (odds ratio [OR] 2.782, 95% confidence interval [CI] 1.454, 5.321; $p=0.002$), APD (OR 2.152, 95%CI 1.187, 3.901; $p=0.012$) and upward or lateralward exit sites (OR 3.595, 95%CI 1.106, 11.686; $p=0.033$) were associated with subcutaneous cuff migration.

CONCLUSIONS

One year after the start of PD, the subcutaneous cuff migrated approximately 1 cm toward the exit site, and the migration was associated with use of a non-embedded catheter, APD, and upward or lateralward exit sites.

P-94 - Mechanical Complications Of Peritoneal Dialysis – A Challenging Case Of Catheter Malfunction

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OBJECTIVES

Peritoneal dialysis (PD) catheter malfunction is a major cause of technique failure and tip migration is one of its possible aetiologies. Its recurrence and prevention are still an important issue.

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METHODS

We report a case of an incident PD patient where catheter dysfunction required different clinical approaches.

RESULT

A 71-years-old male patient with CKD-G5 due to FSGS was submitted to a laparoscopic pig-tail PD catheter implantation with anterior abdominal fixation (AAF). One month after surgery, the patient presented with complete extrusion of PD catheter. A new catheter was placed via laparoscopic surgery, again with AAF. The correct positioning was confirmed by x-ray. PD was started four months later. At this point, the catheter was already displaced to the right lower abdominal quadrant (RLAQ). Due to MSSA tunnel abscess the second catheter was removed. A third catheter was placed, by mini-laparotomy, with the tip assuming a RLAQ positioning conducting to mechanical malfunction. A laparoscopy was performed to place it within the small pelvis. However, its vicious malposition prompted its removal and a fourth PD catheter was placed at the same procedure. To prevent its migration, peritoneal cerclage was done. After surgery, an x-ray revealed new migration of the catheter's tip to the transumbilical level. The catheter remains functional since the last procedure.

CONCLUSIONS

We present a challenging case that required multiple surgeries for catheter implantation. Despite AAF and peritoneal cerclage, spontaneous tip migration happened repeatedly. Different surgical approaches were used with no impact on this outcome. Other strategies may be discussed in the approach of catheter malfunction and clinicians should search for innovative solutions. Some strategies have already been suggested, such as the use of a flexible ultra-fine endoscope. Other techniques for catheter's tip fixation and repositioning in the small pelvis should be developed and implemented, besides bowel movement stimulation and alpha manoeuver.

P-95 - Independent Predictors Of One-Year Quality Of Life Trend In A Population Of Peritoneal Dialysis Patients: Time On Dialysis Matters

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OBJECTIVES

Health-related quality of life (QoL) is increasingly recognized as an important patient-centered outcome in dialysis, including peritoneal dialysis (PD). Studies evaluating the trend of QoL with time in PD populations are scarce. We aimed to evaluate the changes in QoL over a one-year period in a multinational population of PD patients.

METHODS

This was a multicenter prospective observational study using a quality database from a large dialysis organization. All adult patients that voluntarily responded to KDQOL-36 in 2021 and 2022 were included. KDQOL-36 Mental (MCS) and Physical Composite Scales (PCS) were analyzed and divided in two groups: Group I, increase in MCS and PCS by more than 5 points; Group II, decrease in both scores by more than 5 points. At the time of the first survey, demographic (age, gender and country) and clinical data (diabetes, comorbidity index - CI) were collected and death was registered until 6 months after the second survey. T-test and z-test were performed for group comparisons. Multivariate linear regression, using the one-year difference in the composite score as outcome variable, was also used.

RESULT

266 PD patients with valid responses to both KDQOL-36 were included. Globally, PCS increased significantly in 82 patients (30.8% of surveys) and decreased in 77 (30.8% of surveys), whereas MCS increased in 75 patients (28.2% of surveys) and decreased significantly in 85 patients (32.0% of surveys). Increase on both scores was observed in 26 patients (9.7% of surveys) and a decrease in 29 (10.9% of surveys). No significant differences were observed between Group I and Group II patients concerning age, gender, dialysis vintage, CI and diabetes. A significantly higher number of deaths at 6 months were observed in Group II (7.7% vs. 10.3%, $p<0.001$). In multivariate analysis, dialysis vintage was independently associated with a decrease in PCS (B=9.28; CI 95%: 2.07, 16.49; p=0.015), but not with MCS changes. Six-month mortality was not independently associated with significant changes in one-year QoL scores.

CONCLUSIONS

In our PD population, one-year negative trend of the physical QoL score was significantly associated with time on dialysis, highlighting the need to promote oriented QoL interventions in this group, at risk of QoL decrease. These results also reinforce the importance of following clinically significant changes in QoL through

P-96 - Body Composition Parameters Influence Peritoneal Dialysis' Outcomes

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OBJECTIVES

Our study objective is to access the impact of peritoneal dialysis (PD) patients' baseline characteristics including body composition monitor (BCM) parameters in the outcomes of death, technique failure and renal transplant (RT).

METHODS

We conducted a prospective based registry study including 127 incident patients from 2009 to 2022, with BCM evaluation in the first 6 months. After univariate statistical analysis, we constructed a multivariate competitive model to access independent predictors on the above referred outcomes.

RESULT

Population mean age was 48.5 (+ 13.9) years, 55.1% male, 17.3% diabetic, 78.7% PD first and 89.8% started PD by option. Median follow-up was 23.9 (14.3-42.9) months. Ten (7.9%) patients died, 52 (40.9%) were transferred to HD, 42 (33.1%) had RT and 23 (18.1%) were still in PD treatment.
Multivariate analysis revealed higher age (HR 1.14; p< 0.001), lower residual renal function (RRF) (HR 0.69; p< 0.001), overhydration (OH) (HR 1.82; p= 0.005), and higher relative fat (rFat) (HR 1.11; p= 0.016) as predictors of mortality. Higher lean tissue index (LTI) (HR 1.27; p= 0.003) and rFat (HR 1.06; p= 0.033) were associated with technique failure. RT patients had lower LTI and rFat (HR 0.78; p=0.013; HR 0.94; p=0.024, respectively).

CONCLUSIONS

In our population OH and lower RRF mortality`s impact requires attention, as described in previous studies; however, it does not influence technique failure, highlighting possible mitigation of these factors with adequate PD prescription. Higher rFat increases the death risk, enhancing modifiable metabolic risk. Unexpectedly higher LTI and rFat are associated with transfer to HD and suggest a need for further statistical analysis taking in account competitive risks. Concerning RT, lower rFat is protective, but not higher LTI, requiring revisitation of transplant policies. Our study emphasizes BCM as a valuable tool to PD patients´ regular management.

P-97 - Portal Blood Flow Reduction And Risk For Intestinal Ischemia Is Underestimated When Determined By Hepatic Clearance Techniques

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OBJECTIVES

Instillation of the peritoneal cavity during peritoneal dialysis (PD) increases intra-abdominal pressure (IAP) which could affect blood flow especially in low pressure parts of the hepato-splanchnic circulation. This circulation is characterized by a dual input of portal vein (Qp) and hepatic artery (Qh) inflows into the liver. Changes in Qp during PD are unclear and were therefore examined during a standardized filling of the peritoneal cavity.

METHODS

Measurements were done during a peritoneal equilibration test (PET) with 2 L 2.27% glucose solution. Data were obtained in the drained state at baseline (T0), after instillation (T1), and after 2h of dwell time (T2). IAP was measured by Durand's approach. Hepato-splanchnic blood flow (Qhs) was determined from the hepatic clearance of indocyanine-green. The fraction of Qh relative to Qhs at baseline (T0) was assumed as fh=0.3.

RESULT

Twenty (5 female) prevalent PD-patients were studied. IAP was 5.8±3.5 mmHg at T0, increased to 9.4±2.8 mmHg at T1, and further to 9.7±2.8 mmHg at T2. Qhs, Qp and Qh at T0 were 1.12±0.44, 0.79±0.31, and 0.34±0.13 L/min, respectively. Qhs tended to decline relative to baseline by 8.0±19% at T1, and to increase by 0.2±18.9% at T2. The changes in Qp, however, were larger and 11.5±25% at T1 and 0.3±27% at T2 when Qh was assumed to remain constant.

CONCLUSIONS

The dual inflow to the liver and the hepatic arterial buffer response (HABR) requires that Qh is maintained or even increased when Qp is reduced in case of hepato-splanchnic venous congestion. A conservative estimate for Qprel which accounts for constant Qh is obtained as Qprel=Qhsrel/(1-fh). The relative decrease in Qhs (Qhs,rel) measured by hepatic clearance techniques therefore underestimates the true relative decrease in Qp (Qprel) and the risk of intestinal ischemia.

P-98 - Regular And Sustained Oscillations In Hepato-Splanchnic Blood Flow And Stroke Volume Induced By Peritoneal Filling

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OBJECTIVES

Peritoneal dialysis (PD) is considered more tolerable for chronic kidney disease (CKD) patients with heart failure (HF). To which degree the PD-induced increase in intra-abdominal pressure (IAP) affects hemodynamics is under debate. Here we report a case were the IAP increase had distinct local and systemic hemodynamic effects.

METHODS

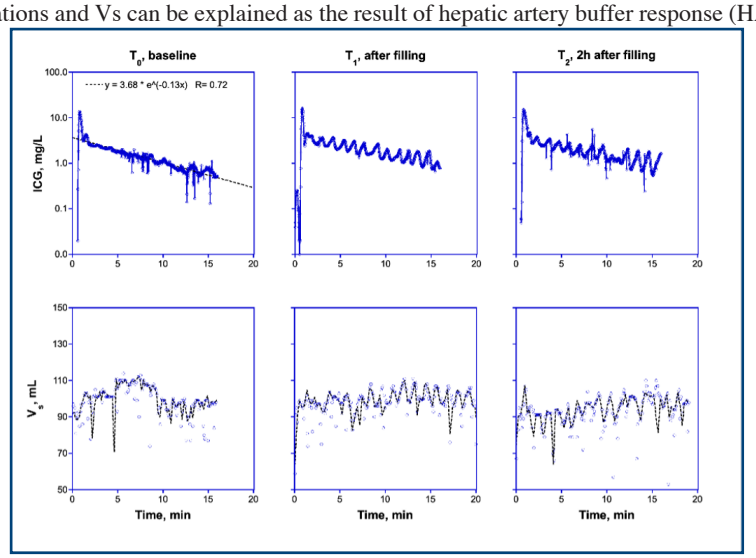
Hepato-splanchnic blood flow (Qhs) determined from clearance of indocyanine-green (ICG) dye and beat-to-beat stroke volume (Vs) determined from continuous dye-densitometry and finger plethysmography were examined during a peritoneal equilibration test with 2 L of 2.27% glucose dialysate. The patient (male, 74 years, 173 cm, 83.1 kg, ejection fraction 30%) remained fasting and in supine body position throughout the duration of the study. Data were obtained in the drained state (T0), immediately after instillation of dialysate (T1), and after a 2h dwell period (T2). Durand's approach was used to measure IAP.

RESULT

The increase in IAP from 6.5 (T0) to 11.5 mmHg (T1) was associated with a reduction in Vs by 7%, an increase in total peripheral resistance by 17%, and a reduction in Qhs by 48%. Furthermore, distinct and regular oscillations with a period of about 1 min in both arterial ICG concentrations and in Vs were observed (Figure). The patient was stable hemodynamically but oscillations persisted and were also found when measurements were repeated at T2 where IAP was 12.75 mmHg. A parallel blood-flow model for ICG distribution and elimination incorporating feedback control of hepatic arterial blood flow (Qh) was developed to explain the dynamics.

CONCLUSIONS

Oscillations in ICG concentrations and Vs can be explained as the result of hepatic artery buffer response (HABR) correcting for hepatic



ischemia and oscillating with the harmonics of mean circulatory transit time. PD-induced increase in IAP seems to further aggravate venous congestion in the splanchnic circulation especially in HF patients.

P-99 - A Successful Pregnancy And Full Term, Vaginal Delivery In A Patient Exclusively On Peritoneal Dialysis.

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OBJECTIVES

Pregnancy in patients on dialysis is rare with annual incidence of 0.3-2.7%, and with twice as many pregnancies reported on hemodialysis (HD) than on peritoneal (PD) one. End stage kidney disease (ESKD) is a risk factor of miscarriage, stillbirth, and maternal and fetal complications during pregnancy and delivery. Some experts recommend routine conversion from PD to HD in pregnant patients but pros and cons of such decision should be considered in each individual case. The conversion from PD to everyday HD seems to be justified in the following cases: anuria, need of high dialysate osmolarity, inadequate dialysis due to decreasing intra-peritoneal space as a result of growing uterus, or mother's preference. The advantages of PD include: stable hemodynamics, better controlled anemia and decreased

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risk of airborne infections e.g. COVID-19.

METHODS

We report the case of a 38-year-old patient with ESKD due to reflux nephropathy, who conceived 4 months into PD therapy. Originally she was treated with automated peritoneal dialysis (APD) at night consisting of 4 exchanges of 1800 ml 1.5% glucose solution. Her daily urine output was up to 3L, ultrafiltration 400-1300mL. Along with the progress of pregnancy the volume of inflow was decreased in favor of an increasing number of exchanges and total time of the dialysis with the introduction of day dwell. Repeated Kt/v was not less than 3.0. In addition, hypertension was vigorously treated, anemia controlled with the use of erythropoietin, iron and folic acid. Aspirin, docosyhexaenoic acid were added as well as levothyroxine.

RESULT

The patient was reviewed in the PD Unit every 3-4 weeks in the 1st and 2nd trimester and every 2 weeks in the 3rd one with the possibility of 24 hours contact with the PD Unit. Frequent prenatal care was provided by the experienced obstetrician. The APD with one additional manual exchange in daytime was continued until the 39th week when the patient spontaneously delivered a healthy daughter (2540g, APGAR 10/10) who was breastfed for 5 months. The APD was restarted in 48 hours postpartum and continued until the successful kidney transplantation two years later.

CONCLUSIONS

The key to the successful pregnancy, delivery and postnatal period on PD were meticulous follow-up by nephrology and obstetric team and patient's strict adherence to the dialysis, diet and medication regime. PD was justified and safe for the pregnant patient in the time of coronavirus pandemic. In addition, while preserved residual renal function is important for achieving adequate therapy on PD, it can be further preserved by PD itself and thus result in better pre and postnatal outcome for an ESKD patient.

P-100 - Nephrologist Led Insertion Of PD Catheters - A Transition From Percutaneous Guidewire Assisted To Mini Laparotomy Technique

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OBJECTIVES

Peritoneal dialysis (PD) catheter insertion involves diverse techniques: open surgery, laparoscopic surgery, and percutaneous guidewire-assisted insertion. This retrospective analysis aims to describe the clinical outcomes of nephrologist-led PD catheter insertion in search of the optimal technique.

METHODS

We initially used the percutaneous insertion technique utilizing the Seldinger method in the operating theater with a surgeon's assistance under general anesthesia. Subsequently, we switched to an open surgical mini-laparotomy approach with infraumbilical paramedian skin incision and meticulous surgical dissection to access the peritoneum. Notably, three of the open surgical insertions were performed under local anesthesia and mild sedation.

RESULT

Ten male patients, with a mean age of 45 years and a mean body mass index of 25, underwent nephrologist-led PD catheter insertion. Three patients underwent percutaneous insertion, and the rest underwent open surgical insertion. Following the procedures, all catheters were functioning properly. Three cases of catheter tip migration were observed, two occurring in the percutaneous technique group and one in the open surgical group, where the catheter was misplaced through the omentum. The subsequent omentum wrap was resolved three weeks after initial placement with laparoscopy. No significant complications like hollow organ puncture, significant bleeding, or preperitoneal placement were observed.

CONCLUSIONS

Nephrologist-led PD catheter insertion offers significant benefits by avoiding the necessity to secure operating theatres, surgeons, or radiological suites, thus reducing waiting times and logistics. We transitioned from guidewire-assisted median percutaneous technique to the paramedian mini-laparotomy due to better visualization of the true peritoneal positioning of the catheter, avoiding preperitoneal space, optimizing inner cuff placement in the rectus muscle, and performing preperitoneal tunneling to minimize the risks of leaks and migration. The assistance of an abdominal surgeon during the process was crucial. This technique is appropriate for patients without specific indications for laparoscopic implantation and can be safely done under local anesthesia with mild sedation.

P-101 - Associated Factors For Survival Of Peritoneal Dialysis Catheter: A Retrospective Single-Center Study

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OBJECTIVES

Peritoneal Dialysis (PD) is Thailand's second most common mode of renal replacement therapy (RRT) due to its flexible schedule and home-based procedure. The aim of this study is to identify the factors affecting the survival of PD catheters, infectious complications, mechanical complications, PD catheter patency at 12 months, and PD catheter technical failure.

METHODS

A retrospective cohort study was conducted among patients older than 18 years old who had a PD catheter inserted and followed up at Siriraj Hospital from January 2009 to December 2019. Patients who experienced either infectious or non-infectious complications within two weeks were excluded. A total of 347 patients were included in this study, and their baseline characteristics and clinical data were analysed. The Kaplan-Meier method was used to estimate PD catheter survival, and the factors affecting PD catheter survival were identified using Cox proportional hazard regression model.

RESULT

Over an 11-year follow-up period, 347 patients were included in this study. The PD catheter survival rates were 94%,88%, and 80% at 1,2, and 3 years, respectively, with a median catheter survival time of 6.1 years. The three factors significantly affecting PD catheter survival were peritonitis (HR 2.46; 95% CI 1.38-4.38), exit site infection within 30 days (HR 3.74; 95% CI 1.13-12.30), and coronary artery disease (HR 1.86; 95% CI 1.19-2.89). No other significant factors were identified in this study. The primary risk factors for PD-related peritonitis included hypoalbuminemia, exit-site infection, and tunnel infection.

CONCLUSIONS

The main factors affecting the survival of PD catheters are peritonitis, early exit-site infection within 30 days and coronary artery disease. To improve PD catheter survival, minimizing PD-related infection is an important consideration.

P-102 - Association Of Urinary Liver-Type Fatty Acid-Binding Protein With Peritoneal Dialysis Withdrawal

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OBJECTIVES

We have previously reported that high urinary L-FABP is associated with residual renal function (RRF) decline in PD patients, but it is not clear whether urinary L-FABP is associated with PD withdrawal. In this study, we investigated the association between PD withdrawal and urinary L-FABP in PD patients

METHODS

35 PD patients who underwent peritoneal equilibrium study (PET) at between October 2011 and September 2019 were included. Data from the first PET during the period were used as baseline. Patients were followed until PD withdrawal or December 2022. Patients were divided into two groups based on median urine L-FABP (82.8 μg/day), and the subsequent PD withdrawal rates were compared.

RESULT

The median duration PD was 13 months (range: 11-24) at baseline. 32 patients withdrew from PD, and the withdrawal rate was higher in the low L-FABP group than in the high L-FABP group (log-rank test, p=0.02). Urine L-FABP was also a significant factor associated with PD withdrawal after adjustment for patient background (hazard ratio: 0.989, 95% confidence interval: 0.979-0.998, p=0.03). The rate of withdrawal due to death was higher in the low urine L-FABP group than in the high urine L-FABP group.

CONCLUSIONS

Contrary to our expectation, low urinary L-FAPB was a risk factor for PD withdrawal. Withdrawal due to death was more common in the low urinary L-FABP group, suggesting that a mechanism other than RRF decline may be associated with PD withdrawal. Low urinary L-FABP is a risk factor for PD withdrawal in PD patients.

P-103 - Urinary Dickkopf-3 Predicts Residual Renal Function Decline In Peritoneal Dialysis Patients

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OBJECTIVES

Urinary levels of dickkopf-3 (DKK-3) have been associated with poor renal survival in patients with non-dialytic chronic kidney

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disease. However, it remains unknown whether urinary DKK-3 levels can predict the decline of residual renal function (RRF) in patients undergoing peritoneal dialysis (PD). Therefore, we investigated the correlation between urinary levels of DKK-3 and the subsequent rate of RRF decline in PD patients.

METHODS

This study included 36 PD patients who underwent multiple peritoneal equivalent tests during the period from 2011 to 2021. We examined the relationship between baseline clinical characteristics and the subsequent annual rate of Kt/V decline.

RESULT

The annual rate of renal Kt/V decline was 0.29 (range: 0.05-0.48), and it correlated with renal Kt/V ($r = 0.55$, $p = 0.0005$) and 24-hour urinary DKK-3 excretion ($r = 0.61$, $p < 0.0001$). Similarly, 24-hour urinary DKK-3 excretion ($\beta = 0.44$, $p = 0.0015$) and renal Kt/V ($\beta = 0.38$, $p = 0.0059$) were independently associated with the annual rate of renal Kt/V decline in multivariate analyses.

CONCLUSIONS

Assessment of urinary DKK-3 may help identify PD patients at high risk of RRF decline.

P-104 - Peritoneal Dialysis Catheter Rupture After Topical Treatment With Gentamicin And Bethamethasone-Based Ointments

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OBJECTIVES

The peritoneal catheter is a crucial element for the correct execution of peritoneal dialysis. Catheter-related complications include exit site infection, cuff extrusion, obstruction and leakage. Catheter rupture is a rare event.
Possible deleterious effects on the silicone structure of the catheter have already been described due to the use of mupirocin-based ointments and range from opacification, ballooning, thinning up to breakage (Khandelwal M., Bailey S., Izatt S., Chue M., Vas S., Bargman J. et al. Structural changes in silicon rubber peritoneal dialysis catheters in patients using mupirocin at the exit site. Int J Artif Organs 2003; 26: 913–17).
Here, we describe the case of a female patient (41 years of age) affected by arterial hypertension and insulin dependent type II diabetes, with vascular (obliterating arterial disease), neurological (peripheral neuropathy) and renal complications (on renal biopsy: diabetic glomerulopathy and notes of nephroangiosclerosis).
After a rapidly progressive renal insufficiency, the patient begins peritoneal dialysis treatment in May 2022 without particular complications.

METHODS

In September 2022 patient develops exit site infection with discharge and redness; the skin swab was positive for *staphylococcus haemoliticus* and sensitive to gentamicin. For these reasons she starts topical treatment with Gentamicin 0.1% + Betamethasone 0.1%. After 20 days of treatment, the patient came to our observation for catheter breakage. The catheter appeared frail and the silicone structure had lost its elasticity and softness.

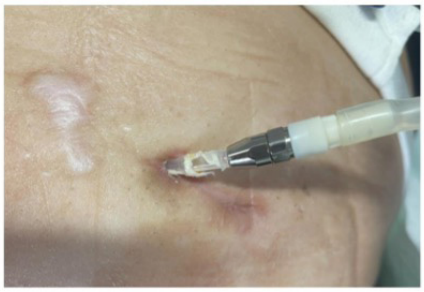
RESULT

Radiological imaging showed correct placement of the peritoneal catheter and echo imaging showed the subcutaneous cuff near the exit site (Figure 1). Trying to save the catheter, cuff-shaving was performed with externalization of the cuff (Figure 2), remediation of the inflamed and infiltrated tissue and subsequent junction of the new catheter extensor near the dacron cuff (Figure 3).

Figure 1

Figure 2

Figure 3



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CONCLUSIONS

The mechanisms that can cause alterations in the silicone structure of the catheter are not known; probably gentamicin per se or in combination with antiseptic solutions may contribute to these changes. Close surveillance and observation of the catheter for possible structural alterations of the silicone rubber could prevent these events.

P-105 - Effect Of Pre-Transplant Dialysis Modalities On Delayed Graft Function

Vincenzo Antonio Panuccio[1], *Rocco Tripepi*[2], *Sonia Cosentino*[3], *Francesco Cambareri*[4], *Maria Carmela Versace*[5], *Giovanna Parlongo*[6], *Giovanni Luigi*[7]

Institute of Clinical Physiology - National Research Council[1], *Nephology, Dialysis and Transplantation Unit - Grande Ospedale Metropolitano*[2]

OBJECTIVES

Kidney transplantation represents the optimal treatment for end-stage renal disease patients. Benefits and disadvantages of different pre-transplant dialysis modalities and the effects on post-transplant outcomes remain unclear, but many authors identify peritoneal dialysis (PD) such a “bridge” versus renal transplantation.

METHODS

We analyze a consecutive series of 249 renal transplanted patients (mean age 48±11 years, 67% males) between June 1998 and February 2016 with a low prevalence of comorbidities (diabetes 2%, hypertension 31%, previous cardiovascular events 2%). The median follow-up was 136 months [interquartile range (IR) 91-197 months]. The pre-transplant treatment was hemodialysis (HD) in 215 patients (86%) and peritoneal dialysis (PD) in the remaining 34 patients (14%). The majority of patients received a cadaveric donor organ (219 patients, 88%).

RESULT

Delayed Graft Function (DGF) was registered in 151 patients (61%). DGF was observed in 15 patients out of 34 (44%) on pre-transplant PD and in 136 patients out of 215 (63%) on pre-transplant HD treatment (P=0.03). Remarkable, PD patients were older (48±12 years) than HD patients (44±11 years), but this difference did not attain the statistical significance (P=0.09). Similarly the prevalence of living donors were higher (13%) in the group of HD patients than in PD patients (9%, P=0.53).
In a longitudinal analysis, the last estimated Glomerular Filtration Rate (eGFR) was lower in patients with DGF [44, interquartile range (IQR) 19-66 ml/min/1,73m2] vs patients without DGF (48, IQR: 35-73 ml/min/1,73m2, P=0.04), but no difference was found at the end of observation in eGFR values between the two groups (HD, eGFR 45, IQR: 25-68 ml/min/1,73m2 vs PD eGFR 46, IQR: 24-67 ml/min/1,73m2).

CONCLUSIONS

This study confirms that PD treatment can be considered an optimal “bridge” for renal transplantation. This is probably due to peculiar characteristic of this dialysis modality (such us long term preserved diuresis and residual renal function respect HD patients) that positively impact upon on renal function recovery. Further study are needed to clarify these controversial points.

P-106 - Results At 2 Years Of Incident Patients On Peritoneal Dialysis With Relative Contraindications

Almudena Vega[1], *Ana García-Prieto*[1], *Arturo Bascuñana*[1], *Antonia Mijailova*[1], *Diego Barbieri*[1], *Alvaro Morales*[1], *Maria Tudela*[1], *Pablo Lozano*[1], *Soraya Abad*[1], *Eduardo Verde*[1]

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OBJECTIVES

Peritoneal dialysis (PD) is a technique with relative contraindications due to disorders that may affect abdominal cavity and peritoneum function. However, these situations are not always incompatible with the therapy.
The objective of the present study was to evaluate the viability of the therapy in patients with relative contraindications.

METHODS

This is a retrospective study. We collected al incident patients that started PD therapy during the last 3 years. We defined relative contraindication as follows: autosomal dominant polycystic kidney disease (ADPKD), obesity (BMI>35kg/m^2) and previous abdominal surgeries. We collected adecuacy parameters (KtV, serum beta2microglobulin), diuresis and complications during the follow up.

RESULT

During the last 3 years, 37 patients started PD. Fifteen of them (14%) fulfilled relative contraindication criteria. Mean age was 62±18years, 52%male. APD was the inicial treatment for 5 patients and CAPD was chosen for 10 patients.
Three patients had BMI>35kg/m^2, 3 patients had ADPKD and the rest had abdominal surgeries: 1 aortic aneurysm, 3 intestinal perforation,

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1 nephrectomy after renal tumor, 3 hysterectomies, 1 umbilical hernia.
Median follow up was 12 (3-25) months. Kt/V at 3 months was 2.6±0.1; 2.3±0.1 one year after and 2.2±0.2 two years after (p=NS). Mean diuresis at 3 months was 1900±540mL, 1800±440mL the first year and 1500±210mL two years later (p=NS). Mean overhydration by spectroscopic bioimpedance at 3 months, a year and two years was 0.7±0.1L, 0.6±0.1L and 1.2±0.3L (p=NS). Mean serum beta2microglobulin was 13.5±4.2mg/L at 3 months, 14.0±4.1mg/L after one year and 14.2±4.0mg/L two years later (p=NS). We did not find significant diferences in adequacy and overhydration parameters during the follow up.
There were 2 complications: 1 patient had a primary failure for surgery flanges that was transferred to HD and 1 patient had a pleuroperitoneal leak that could continue PD therapy with lower volume exchanges.

CONCLUSIONS

PD is available in patients with relative contraindications. Our incident patients with relative contraindication rate is high, and the success rate is higher than expected. All our patients had an adequate dialysis dose and hydration state during the follow up.

P-107 - Ca125 Versus Bioimpedanciometry Testing To Assess The State Of Overhydration In Peritoneal Dialysis Patients Without Heart Failure: Does It Add Value?

Manel Vera Rivera[1], *Laura Morantes*[2], *Julia Olle*[3], *Vanessa Villegas*[4], *Jose Broseta*[5], *Francesc Maduell*[6]

Hospital Clínic De Barcelona

OBJECTIVES

Volume homeostasis is extremely important in the patient with stage 5 chronic kidney disease on peritoneal dialysis. Congestion significantly affects functional class, hospital admissions, and survival. Carbohydrate antigen 125 (CA125), a glycoprotein synthesized by mesothelial cells, is elevated in response to increased venous hydrostatic pressures and/or inflammatory stimuli, therefore it is a surrogate marker of clinical congestion. The objective of this study was to compare the relationship between CA125 and the overhydration data given by bioimpedanciometry in patients on peritoneal dialysis.

METHODS

This is a single-center prospective observational study that included 34 stable patients, on a chronic peritoneal dialysis program and with no history of heart failure in the previous 6 months. All the patients in the program underwent a multifrequency bioimpedance test during the routine follow-up visit, coinciding with the analytical control and the determination of CA125. Water overload was defined when the OH value was > 2.5 liters and/or the OH/ECW ratio > 15%, using the BCM ® device. In the case of CA125, a value greater than 35 U/mL was considered high.

RESULT

The mean age was 61.3 +/- 20.7 years, 14 (41% were women) and 20 (59% were men), 11 patients had a diagnosis of heart disease (32.3%), 29 had residual diuresis (85.2%). and 20 had prescribed a diuretic (59%). The number of patients who met the criteria for fluid overload according to bioimpedance analysis was 4 (11.7%). When relating CA125 with OH and %OH/ECW we did not find a statistically significant relationship p= 0.77 and p= 0.54, respectively. None of our patients had symptoms or examination data of heart failure.

CONCLUSIONS

Although studies in the literature establish an association between CA125 and clinical congestion parameters, in our study we found no relationship between CA125 and volume overload markers obtained by multifrequency bioimpedanciometry. It will probably be necessary to increase the size of the study population.

P-108 - CANCELLED

P-109 - Increasing The Population On Peritoneal Dialysis Is Not A Utopia: The Experience Of An Italian Center.

Valerio Vizzardi[1], *Diana Bertoni*[1], *Vincenzo Terlizzi*[1], *Bernardo JA Lucca*[1], *Nazario Portolani*[3], *Maurizio Ronconi*[4], *Federico Alberici*[1,2]

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OBJECTIVES

The results of the 8th National Census (Cs-22) of Peritoneal Dialysis in Italy, carried out in 2022-23 by the Italian Society of Nephrology's Peritoneal Dialysis Project Group and relating to 2022, showed that in Italy peritoneal dialysis (PD) has a prevalence of 16.6% and an incidence of 22.2%, constantly decreasing over the past years. Scientific literature has demonstrated many years ago that PD patients have

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a similar survival rate to those on hemodialysis (HD), so we would expect a similar use of the two methods.

METHODS

We describe our Center's experience in which, despite the SARS-Cov2 pandemic which upset the national health care system organization, a significant increase in the number of PD patients has been achieved. From 1 January 2008 to 31 December 2022, at our DP unit, 468 peritoneal catheters were placed in as many patients with End Stage Kidney Disease.

RESULT

From January 2020 to December 2022, PD patients in our Center increased from 59 to 112 (+89.9%) bringing PD prevalence to 30% (Figure 1). The reasons for this significant growth could be:
1. the tenacious information activity of the end stage renal disease clinic during which patients are carefully educated regarding dialysis methods and are prepared for a shared choice
2. the constant commitment of a medical and nursing team motivated towards offering patients a safe and valid treatment
3. an excellent collaboration with the surgical Units that place the peritoneal catheters
4. the valid and constant collaboration with other structures which, not practicing PD, refer their patients to our observation
5. information provided also to patients already on hemodialysis or who must return to dialysis due to graft failure
Furthermore, the SARS-Cov2 pandemic and the consequent need to avoid hospital access have certainly contributed to the increase choosing home treatment.

CONCLUSIONS

In Italy peritoneal dialysis is not used enough. The strongest limitation is a lack of adequate information provided by nephrologists to naïve patients, but also to those already on hemodialysis or starting again after transplant. Our experience, even though limited to a single Center, confirms that a motivated team can help the patient make a shared decision, which often leads to choosing PD.

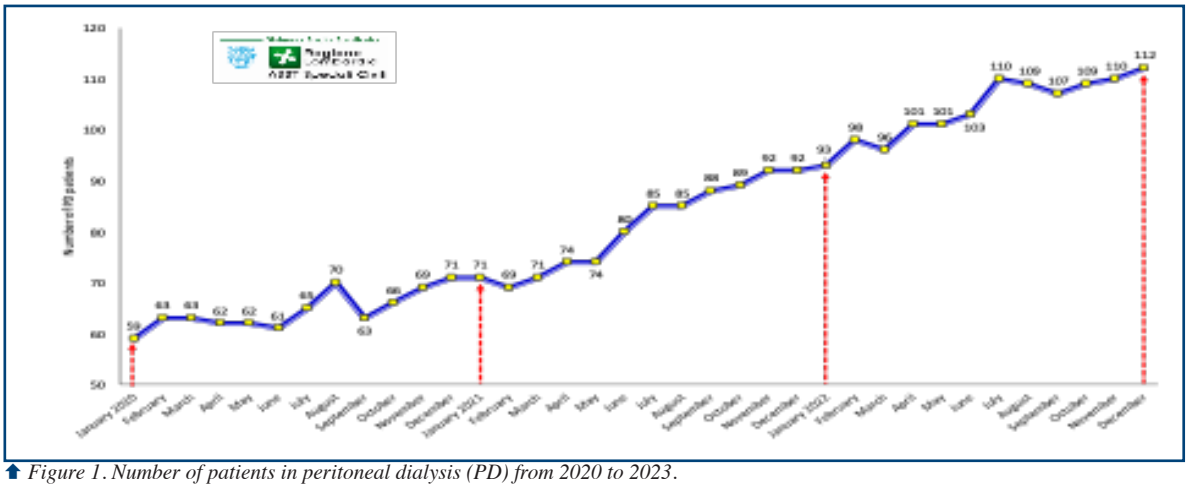

Figure 1. Number of patients in peritoneal dialysis (PD) from 2020 to 2023.

P-110 - Prevalence And Management Of Hernias In Peritoneal Dialysis

Qods Yacoubi[1,2], *Sara El Maakoul*[1,2], *Nabil Hmaidouch*[1,2], *Rabia Bayahia*[1,2], *Naima Ouzeddoun*[1,2], *Loubna Benamar*[1,2]

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OBJECTIVES

Hernia is a frequent mechanical complication in peritoneal dialysis (PD). Its prevalence varies between 7 and 27.5% based on published literature. Early surgery is recommended to avoid complications (strangulation, intestinal obstruction and peritonitis), alongside technical dysfunctions. The aim of our study is to determine the prevalence of hernias at the beginning and during PD, to identify the risk factors for their formation, and to evaluate their evolution after surgical treatment.

METHODS

This is a retrospective descriptive study between June 2006 and June 2023, including all patients presenting a hernia. We studied patients' demographic, clinical, biological data, intraperitoneal pressure (IPP), surgical technique and evolution after surgery, along with factors associated with hernia recurrence.

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RESULT

During this period, 234 patients underwent PD in our department. 14 patients presented with a hernia, with a total of 17 hernias, a prevalence of 5.7%. The mean age was 55+/- 13.8 years, with a sex ratio of 0.5 (M/F).

49% of patients were overweight with a BMI between 25 and 30, and 50% had a background of abdominal surgery.
Ten patients were in CAPD and 4 in APD, with injection volumes between 1,1 and 2 liters, and a mean IPP of 15cmH2O.
The mean time from the start of PD to hernia formation was 21.7 +/- 25.7 months.
Two patients had an umbilical hernia before PD and underwent repair simultaneously to PD catheter placement.

Seven patients underwent surgery, implanting a plate in two of them. Recurrence occurred among three.
The mean time between surgery and resumption of PD was 18 days (2-79). The mean survival of the technique after hernia diagnosis was 3.7 +/- 2.05 years.

CONCLUSIONS

It is important to manage hernias in PD candidates patients, in order to avoid complications. However, there is no impact on post-hernia technical survival.

P-111 - Comparison Of Patient Survival Between Hemodialysis-First Patients And Peritoneal Dialysis-First Patients At A Single Center: A Retrospective Cohort Study Using Propensity Score Matching

Shohei Yamada[1,2], *Chiaki Yuasa*[1,3], *Ryo Tajima*[1], *Satoru Morikubo*[1], *Keisuke Yoshida*[1], *Kaori Kohatsu*[1], *Shigeki Kojima*[1], *Yugo Shibagaki*[1], *Tsutomu Sakurada*[1]

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OBJECTIVES

Many studies comparing the survival of hemodialysis (HD)-first patients and peritoneal dialysis (PD)-first patients have been reported. However, few reports from Japan adjusted for patient background characteristics, and only a few of the reports evaluated patient survival after transition from PD to HD. Here, we conducted a retrospective cohort study using propensity score matching (PS) at a single center to compare the difference of patient survival.

METHODS

We enrolled patients who initiated HD and PD at our hospital from January 1, 2013 to December 31, 2021. Patients with a history of renal transplantation before and after the initiation of dialysis, patients with unknown outcomes after the start dialysis, and patients who died during the hospitalization at initiation of dialysis were excluded. In total, 596 patients (521 with HD and 75 with PD) were included in the analysis.

RESULT

After PS matching with age, sex, eGFR, Charlson comorbidity index, serum albumin, and activities of daily living (independent or dependent), hemoglobin, and body mass index as variables, 69 HD and PD patients each were extracted. The frequency of welfare recipients is higher (13.0 vs. 0.0%, p=0.003), and the frequency of living alone is higher (29.0 vs. 7.2%, p=0.002) in HD patients, with no differences in other patient background characteristics. Cumulative survival time in all patients was 84.1±3.5 months, with no difference in patient survival between HD and PD patients (log-rank test p=0.835).

CONCLUSIONS

There was no difference in patient survival between HD-first and PD-first patients at our hospital.

P-112 - The Impact Of A Structured Patient-Education Program On Dialysis Modality Choice In A Dialysis Network.

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OBJECTIVES

According to well documented studies more than half of dialysis starters are choosing home therapies (mostly peritoneal dialysis – PD) if involved in an appropriate patient education program. The authors present their one year experiences with the use of a predialysis education program in the BBraun Avitum Hungary dialysis network.

METHODS

Patients referred for dialysis start to the BBraun Avitum network (18 centers in Hungary) between May 2022 and June 2023 were

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educated on renal replacement options (RRT) by trained nephrology nurses with the help of a structured slide show compiled by the author GZ. Number of educated patients, their modality choices and PD initiation events were evaluated in monthly online sessions with all participating centers. Results have been compared to educational and PD take-on rate numbers of the previous year.

RESULT

CONCLUSIONS

Education periods	05-12 / 2022	01-06 / 2023
No. of patients educated	458	326
No. of patients choosing PD	221	159
No. of patients choosing HD	93	111
No. of Tenckhoff catheter implantations	116	80
No. of patients starting PD	97	77
No. of PD dropouts in the period	107	65
No. of prevalent PD patients by period end	351	363
PD penetration rate in the network	14,6 %	15,2 %

Almost half of referred end educated patients opted for PD, more than half of them had a successful PD catheter implantation and 80-90% of implanted patients started PD during the observation periods of 2022 and 2023. In comparison : only 41 patients in the previous one year period were selected for PD by nephrologists and 29 of them have been started on PD. Patients choosing HD were enrolled in an AV-fistula preparation program. In spite of the relatively high rate of PD starts prevalent number of PD patients and PD penetration rate increased only slightly due to rather high PD modality losses during 2022 (COVID-19 period). Our network experiences point to the importance of a controlled education program in increasing the choice of home dialysis options.

P-113 - Color Doppler Ultrasound Examination For Peritoneal Catheter Malfunction

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OBJECTIVES

Ultrasound (US) for catheter tunnel related complications is an acknowledged and standardized procedure. The US examination of intraperitoneal causes of catheter malfunction has been reported recently even in adult patients. The aim of the study was to evaluate the feasibility of color Doppler ultrasound (CDUS) for testing of peritoneal catheters in adults.

METHODS

The US examination is performed in a supine position with partially filled peritoneal cavity. The peritoneal catheter remains connected to the dialysate double bag set. An US probe of at least 5 MHz is used to follow the intraperitoneal tract of the catheter. The catheter is flushed by means of gravity with dialysis fluid, and accompanied by color Doppler scans parallel to the catheter. Presence of flow signals around the catheter indicates patency of catheter side holes.

RESULT

Twenty seven malfunctioning peritoneal catheter were evaluated by CDUS. The catheters presented prevalently problems of dialysate outflow. The catheter could be easily localized during CDUS, especially in cases in which the catheter is found to be embedded between intestinal loops or in patients with constipation. The combination, absence of flow signals along distinct catheter segments and permanent adhesion of echogenic structures, is compatible with adhesion or entrapment of omentum, epiploic or tubal structures. Mere intraluminal occlusion is represented by the absence of flow signals and adherences in CDUS and by the presence of intraluminal material in B-mode.

CONCLUSIONS

US of the peritoneal catheter is a non invasive ambulatory bedside procedure making possible the examination of the intraperitoneal segment. CDUS is adding important information about patency of catheter sideholes. We consider CDUS helpful for functional testing of the peritoneal catheter in patients with dialysate flow problems.

P-114 - Peritoneal Dialysis Emergency In Children

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*journal officiel du **Registre de Dialyse Péritonéale de Langue Française** **RDPLF** www.rdplf.org*

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OBJECTIVES

We report in this work our experience in the management of emergency dialysis in children.

METHODS

This study was a retrospective study over a three-year period, involving 40 children placed on immediate continuous acute peritoneal dialysis after emergency Tenckhoff catheter placement. in the nephrology, dialysis and renal transplantation department of the specialized hospital in Constantine. The data collected was analyzed using SPSS version20 software.

RESULT

Results: 30% of patients presented with acute renal failure (05 septic shock, 03 drug toxicity, 04 hemolytic uremic syndrome), 70% presented accidentally discovered chronic renal failure (including 50% urinary malformations). The average number of peritoneal exchanges to normalize serum potassium was 04, to normalize the rate of urea 08 exchanges, sodium hydroxide overload 13 exchanges, paradoxically the most frequent complication was hypokalaemia. The average duration of the acute technique is 3 days. We recorded two deaths (septic shock and acute lung edema). Renal function recovery was 100% for patients with acute renal failure, for patients with chronic renal failure 80% were scheduled for automated peritoneal dialysis after a short period of continuous ambulatory peritoneal dialysis and 20% transferred to hemodialysis. All of these patients were put on the kidney transplant list.

CONCLUSIONS

Our experience of emergency PD in children is generally satisfactory, it is not only a necessity imposed by the weight barrier but a full-fledged and extremely effective method.

P-115 - Two Peritoneal Icodextrin Exchanges Daily: A One-Center Experience

Irene Minguez Toral[1], *Rosa Haridian Sosa Barrios*[1,2], *Cristina Campillo Trapero*[1], *Fernando Caballero Cebrián*[1], *Raquel Moreno García*[1], *Marcos Piris Gonzalez*[1], *Victor Burguera Vion*[1,2], *Milagros Fernandez Lucas*[1,2,3], *Maite Rivera Gorrin*[1,2,3]

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OBJECTIVES

Icodextrin is an osmotic agent used in peritoneal dialysis (PD) to achieve good ultrafiltration rates without exposing the peritoneum to high glucose solutions. Currently, Icodextrin is only licensed to be prescribed once daily. In certain circumstances, two dwells (2-ICO) could be used to obtain higher ultrafiltration.

METHODS

We retrospectively review clinical data of patients in whom 2-ICO were prescribed from January 2018 to July 2023.

RESULTS

13 patients were included, 69% male, mean age 73±10.8 years, 77% were on continuous ambulatory PD and 23% on automated PD. 53% were diabetic and 46% were on the kidney transplant waiting list.
Baseline disease: cardiorenal syndrome (23%), diabetic nephropathy (23%), renal parenchymal loss (23%), ADPKD (7.5%), tubulointerstitial nephritis (16%) and nephroangiosclerosis (7.5%).
Renal function: 23% were anuric, 70% had <1L diuresis and 7% >1L daily.
PET: high transporters (7.5%), medium-high (46%), medium-low (15%).
Indication and regimen: In 61% 2-ICO indication was volume overload and 39% ultrafiltration failure secondary to ongoing peritonitis. On average, patients were on a 2-ICO regimen 35 days (range 5.5-50). The most prescribed regimen was 1 dwell of G2,27% and 2-ICO (38%), followed by 2-ICO exclusively (31%), 2-ICO + DPA (23%) and 2 dwells of G2,27% + 2-ICO (7%).
Outcome and adverse effects: In all cases daily ultrafiltration increased from a median of 750 mL (650-1150) to 1700 mL (1200-1800) achieving negative fluid balances. Regarding adverse effects, 3 patients experienced significant hypotension (>20 mmHg decrease in systolic and/or diastolic blood pressure). Mean sodium changed from 134±4.3 to 133±5.3 mmol/L without associated neurological symptoms. Mean weight loss: 3 Kg (0.2-6).15% suffered peritonitis after 2-ICO start.

CONCLUSIONS

The use of 2-ICO exchanges, in selected patients and situations, can be very useful to improve ultrafiltration and management of volume overload. Adverse effects are mild and do not require discontinuation of treatment in most cases.

P-116 - Percutaneous Peritoneal Dialysis Catheter Insertion Is Not Associated With An Increase In Morbidity Or Complication Rates In Obese Patients

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OBJECTIVES

Obese patients present a challenge for dialysis access. The International Society for Peritoneal Dialysis (ISPD) guidelines for PD access advise that percutaneous catheter insertion may be 'inadvisable' in obese patients. This may cause a delay to initiation of dialysis and longer recovery times if they are referred for surgical insertion. Studies show obesity does not affect catheter function or survival in surgically inserted PD catheters, but there is no data about outcomes for percutaneous insertion. The aim of this study was to provide data to better inform future ISPD guidelines.

METHODS

A retrospective analysis of all patients (n=215) undergoing percutaneous PD catheter insertion between January 2015 and March 2022 in our tertiary centre was undertaken. Weight and BMI at the time of catheter insertion was recorded. Case notes were reviewed to assess survival and specific complications.

RESULTS

The mean age at catheter insertion was 61 years (SD 17.9), median weight was 77.2kg (IQR 22.2) with a median BMI of 27.6 (IQR= 7.2). The cohort was categorised based on their BMI as underweight (n=3, 1.4%), healthy weight (n=66, 30.7%), overweight (n=75, 34.9%), obese (n= 57, 26.5%), morbidly obese (n=2, 0.9%) or BMI unknown (n=12, 5.6%). There was no significant difference between the groups for survival at 12 months, the rate of early peritonitis, catheter function, or requirement for further surgical intervention. None of the patients with a healthy weight required repositioning of their PD tube compared to 55% of overweight patients, and 29% of obese patients, which was a significant finding.

CONCLUSIONS

Overweight and obese patients had no increased rate of complications or decreased survival. This suggests this technique is safe in this patient population, although there may be an increased requirement for PD catheter repositioning.

P-117 - Amino Acid-base Dialysate in Peritoneal Dialysis: a Glucose-Sparing Strategy could be the answer to the Protein-Energy Wasting Problem?

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OBJECTIVES

The use of Glucose-Containing Dialysates (GCD) for Peritoneal Dialysis (PD) is a known risk factor for metabolic complications. Over the years, studies have been trying unsuccessfully to prove that Amino Acid-base Dialysate (AAD) solutions are the answer, not only for a glucose-sparing strategy, but as well as to the decrease of the Protein-Energy Wasting (PEW). The aim of this study was to provide evidence for that fact.

METHODS

A prospective non-randomized study was performed in 34 patients, between nov/2022 and jun/2023. One group with 17 members used an AAD (Nutrineal PD4 ®) once a day, the other 19 patients kept using only GCD. The anthropometric values, analytical values (albumin, total proteins, total cholesterol, high-density lipoprotein cholesterol, low-density cholesterol (LDL) and triglycerides) and protein metabolism were acquired every other month.

RESULTS

A total of 34 patients, 56.8% male, with a mean age of 58.6±13.6 yo, were included in this study, with a mean follow-up of 94.5±33.3 days. There was no difference between age ($T(32)=0.03$; $p=0.87$) or gender ($X^2(1)=1.36$; $p=0.24$). The mean time under PD was different between the two groups ($T(26)=2.50$; $p=0.02$ – AAD: 14.1 months vs GCD: 35.7 months). There were no differences between the anthropometric, analytic and protein loss values between evaluations. A paired T-test was preformed: LDL value had a significant decrease ($\bar{X}$=81.63±46.15mg/dL vs $\bar{X}$=54.55±47.25mg/dL, p-value=0.012.

CONCLUSIONS

The use of an AAD over a GCD one wasn't proved to improve the glycemia values or the PEW in our study. The fact that the time under PD was lower in the AAD group could mean that the GCD solutions' problems weren't felt yet. However, we found a LDL improvement in the AAD group - that could be the first measurable change, as other lab parameters could take longer to demonstrate a statistical significance. A longer follow-up time is demanded to make conclusions.

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P-118 - Staying At Home: Incidence Of Transition From Peritoneal Dialysis To Home Haemodialysis At A Single Centre

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OBJECTIVES

Home therapies have advantages over in-centre haemodialysis (ICHD); they offer favourable clinical outcomes, autonomy, and cost effectiveness. However, few patients transition from peritoneal dialysis (PD) to home (HHD) and there is a paucity of evidence about the incidence of transition. We aimed to assess incidence of transition from PD to home HD (HHD) in a single centre and identify groups more likely to make this transition.

METHODS

We conducted a review of outcomes of incident PD patients from 2015-2021. We examined our renal database to identify patients who stopped PD, reason for stopping, and assessed incidence of transition from PD to HHD.

RESULTS

301 patients started PD from 2015 to 2021. Of these 84 (28%) transitioned to HD, 79 (26%) were transplanted, 71 (24%) died, 4 (1%) and 57 (19%) remained on PD. Reasons for technique failure were infection (44, 52%), leak (17, 20%), mechanical (3, 4%), social (13, 15%) or treatment failure (7, 8%). 8 (10%) transitioned to HHD with a 2.6% transition rate over the study period. Transition to HHD was more common in patients who stopped PD due to leak (5, 29%) than infection (3, 7%). No patients transitioning for social, mechanical or treatment failure reasons transferred to HHD.

CONCLUSIONS

Transition from PD to HHD was unusual. The group likeliest to transition were those who stopped PD due to leaks. The other most significant reasons for stopping PD (infection, social) appeared to make patients less likely to transition to HHD. Reasons for this may include fear of complications, social problems and frailty. Renal units should examine their local pathways to ensure patients can be supported to remain on a home therapy, even when PD is no longer suitable.

P-119 - Why Do In-Centre Haemodialysis Patients Chose Not To Dialyse At Home? Results From A Cross Sectional Patient Survey In The UK

Jyoti Baharani[1], *Stephanie Walker*[1], *Assiya El-Mounjali*[1]

[1]*University Hospitals Birmingham, Birmingham, United Kingdom*

OBJECTIVES

Home Haemodialysis offers numerous benefits for patients with end-stage renal disease, including increased autonomy, convenience, and improved quality of life. However, a significant number of in-centre haemodialysis patients opt not to switch to home dialysis. Understanding the factors influencing this decision is crucial for healthcare providers to enhance patient education and promote informed decision-making. This study aimed to investigate the reasons why in-centre haemodialysis patients do not choose home haemodialysis.

METHODS

A questionnaire survey was conducted among in-centre haemodialysis patients at multiple dialysis centres from the same UK Trust. The questionnaire was designed to collect demographic information, assess patients' knowledge about home dialysis, and identify factors contributing to their decision against choosing this modality. The survey also included open-ended questions to capture patients' perspectives in their own words.
In addition to this we also undertook a qualitative survey with several patients who had chosen a home modality but then opted not to pursue this.

RESULTS

A total of 450 in-centre haemodialysis patients participated in the survey. The majority of respondents were aged between 40 and 70 years, with a relatively equal distribution between genders. Ethnicity was 49% Caucasian 36% Asian and 15 % Afro-Caribbean ethnicity. A quarter of the populationS specified self needling as a barrier against home HD with some exhibiting signs of Trypanophobia Another reason for not choosing home dialysis was patients not feeling equipped or confident to operate the equipment. Feeling like a burden to caregivers also figured significantly (20%). With most of our patients being elderly, home HD was perceived as a burden not only to those who care for patients but also to patients living alone. Space was an additional factor (18%), with many quoting the large number of boxes delivered. Lastly, 15% of the patients lived alone making home modalities isolating for this group.
Most were aware that flexibility was a benefit to choosing home dialysis but this did not outweigh the barriers.
Of the 15 patients who underwent the qualitative aspect of the survey similar concerns were reported.

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CONCLUSIONS

This questionnaire survey shed light on the factors influencing in-centre haemodialysis patients' decision against choosing home dialysis. The findings suggest that patient education and healthcare provider support play crucial roles in addressing these barriers. Improving patients' knowledge about home dialysis, its benefits, and dispelling misconceptions regarding its complexity and safety could potentially increase patients' willingness to consider this modality.
Moreover, efforts should be made to provide comprehensive training and support to patients and their caregivers to mitigate concerns related to technical aspects and complications. Enhancing financial support programs and ensuring adequate infrastructure for home dialysis may also alleviate some of the economic and logistical barriers faced by patients.

P-120 - Coping With Fatigue For People With End Stage Kidney Disease: A Qualitative Study

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OBJECTIVES

Fatigue is a prevalent consequence of hemodialysis and has been recently identified as the most important outcome to improve for people with end stage kidney disease (ESKD) receiving hemodialysis. This is mostly due to its impact on life participation and quality of life. Research on fatigue and how it is experienced by people with ESKD has been expanding in recent years but some gaps still remain. With this master thesis, we aimed to explore how people cope with - and manage - fatigue.

METHODS

Qualitative semi-structured interviews were conducted in one academic hospital in Belgium. Data-analysis was guided by the hermeneutic phenomenological method according to Lindseth & Norberg.

RESULTS

Twenty-one patients (mean age 51, 40% female, 60% male) were interviewed. Different modalities od dialysis were included in the study (50% daytime dialysis, 35% nocturnal dialysis, 15% self-care hemodialysis). The two main identified themes were the biopsychosocial nature of the impact of fatigue and coping mechanisms the participants used to cope with fatigue. Under the biopsychosocial nature of the impact, subthemes included physical aspects, mental aspects, and the impact on role management. The second main theme, coping with fatigue, encompassed the subthemes context, and everyday coping strategies. The main reported coping mechanisms were performing energizing activities, adopting a daily schedule, and adapting daily activities. Context-wise, support from family and friends played a significant role in managing fatigue. Overall, the findings emphasize the importance of acknowledging the holistic impact of fatigue and utilizing patient-relevant coping strategies within various contexts to effectively address and manage fatigue.

CONCLUSIONS

This master thesis serves as a base to identify and guide future interventions to support people with ESKD who experience fatigue. Based on the results, we emphasize the importance of a person-centered approach to guide holistic care. Further research will be valuable to identify, develop, and concentrate effective interventions.

P-121 - Mild Thrombocytopenia

This summary was modified lately and had to be moved to the end of this document.

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P-122 - Patient Tailored Approach Of Esrd: The Polynesian Experience Of Home Hemodialysis

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OBJECTIVES

Home HemoDialysis (HHD) offers a high quality of dialysis treatment and a high degree of independence. While a tailored approach is key to treatment compliance, geographical specificity sometimes prevent patients to benefit from the treatment they want. French Polynesia comprises 118 dispersed islands stretching over 2,000 km in the Pacific Ocean. Implementation of HHD on remote islands has suffered from nephrologists apprehention that weather conditions and geographical distance could prevent proper emergency situations management. In this study, we relate our experience with this dialysis modality.

METHODS

HHD became available in French Polynesia in 2018. We retrospectively reviewed medical charts of 18 HHD patients (5 females, mean age 56.3±10.1 years) with a mean time in other techniques before the switch of 95.7±85.8 months. Mean time in HHD using the Nxstage device was 28.7±21.1 months (range 1-60 months). HHD was performed for a mean 5.7±0.57 day/week, with a mean 13.6 ± 2 h/week. A native arteriovenous fistula was used in 17 (94%) of patients, one patient had a goretex. Mean blood flow was 351±45 mL/min while dialysate flow rate was 9.94±1.31 L/min in mean.

RESULTS

Five deaths (27%) unrelated to HHD occurred, one patient received a transplantation. The vascular access survival was 100% after 5 years while there were 0.69 vascular access interventions/patient-year. Four vascular access infections occurred (0.09 infections/patient-year) due to a *S.aureus* (75%) while 11 patients (69%) were using the buttonhole technique. Four fluid overload episodes occurred (0.09 episodes/patient-year) requiring protocol tailoring with no hospitalization.

CONCLUSIONS

Along the evolution of their ESRD, HHD offen becomes the only option for Polynesians to stay on their island. While high temperatures and water quality might seem off putting, we here report safe outcomes of HHD in a Polynesian cohort, specifically regarding vascular access complications.

P-123 - VALACICLOVIR In Low-Flow Daily Hemodialysis (LF-DHD), An Inadequate Removal? A French Case Report

Anne-claire Du Besset[1], *Juliana-Chiara Weil*[2], *Medical Doctor David Attaf*[2]

[1]*Centre Hospitalier des Chanaux, Macon, France,* [2]*Fresenius Medical Care France, Paris, France*

OBJECTIVES

This case report aims to illustrate the need for guidelines for drug dose adjustment during LF-DHD.

METHODS

49 years old man, anuric since transplantectomy following IgA nephropathy, and currently on LF-DHD (6x2h NxStage sessions a week, Qd166mL/min, 20L dialysate, dialyzer Purema 1.6m²) on radiocephalic native fistula (Qb350mL/min). He presented a herpes zoster with hemithoracic vesicular rash, treated 3 days after eruption: VALACICLOVIR 500mg daily, after dialysis, as advised by GPR (French database for drug adaptation in CKD patients).
On day 2 of treatment, onset of nausea and dizziness. On day 3, increasing symptoms including vomiting drove patient to Emergency Department where cerebellar symptoms were confirmed, without meningoencephalitis symptoms.
Taking into account the known neurological toxicity of VALACICLOVIR in ESRD patients, a 4-hours session of High-Flow HD (HF-HD) is immediately initiated with significant improvement of cerebellar symptoms. VALACICLOVIR treatment is finally successfully maintained for 7 days under cover of HF-HD without neurological relapse. It allowed healing without postherpetic neuralgia nor herpes zoster complication.

RESULTS

VALACICLOVIR is an ACICLOVIR's prodrug, its serum concentration increases quickly with a maximal peak 3 hours after oral intake. An ESRD study about VALACICLOVIR for herpes shows that it's well tolerated without neurological toxicity with <500mgx3/week (HF-HD) and <500mg/d (PD). Anuria was a risk factor for neurotoxicity but there is no data on LF-DHD.
In our patient, chronological onset of cerebellar symptoms after only 2x500mg VALACICLOVIR intakes, despite low flux dialysis; and the fast relief after a single high flux HD session is in favor of an inadequate removal of ACICLOVIR in low flow HD. Favoring factors in this patient were absence of kidney residual function, and a relatively low body weight (58kg).Blood test refuted fistula recirculation.

CONCLUSIONS

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Side effects onset following new medication in LF-HD patients requires temporary transfer to HF modalities. Detailed pharmacokinetic studies in LF-HD are needed.

P-124 - Digital Platform For Biometric And Clinical Telemonitoring Of Home Hemodialysis Sessions: Hemodinn Project

Veronica Duarte Gallego[1], *Merche Prats*[2], *Yolanda Molina*[1], *Yolanda Benito*[2], *Leyre Santiso*[2], *Ariadna Morera*[1], *Javier Gutierrez*[1], *Albert Martinez Vea*[2], *Manel Ramirez De Arellano*[1]

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Telemonitoring home hemodialysis (HDD) sessions helps to ensure patient safety and improves the satisfaction of professionals and patients.
An Innovative Public Procurement project (FEDER funds) allows Nephrology of the Consorci Sanitari Terrassa of Terrassa and Hospital Joan XXIII of Tarragona, to start HDD programs (Physidia S3) with the development of a Digital Telemonitoring Platform (biometric and clinical data) from the patient's home.

OBJECTIVES

Assess the expectations of professionals regarding the new technology for telemonitoring HDD patients and determine the current degree of patient satisfaction.
Subsequently, we will assess the satisfaction of using the new platform in professionals and patients.

METHODS

Clinical practice data from HDD patients (>3 months) from both centers prior to the use of the Telephone Follow-up Application. Questionnaire Perceived quality of life and Instrument Patient experience on home dialysis.
Data from HDD professionals and Davis Technology Expectations Survey.

RESULTS

HDD professionals (2 doctors/ 5 nurses): 71.4% young women (41 years old) with long dialysis experience: 15.43 years on average and 5.71 years in home techniques (especially peritoneal dialysis).
Among them, a well-received Digital Platform, perception of maximum Utility of 74% and maximum Ease of 89%. General attitude towards new technologies 72.28% of the maximum.
Given a small sample, there is no relationship between technological expectations and characteristics of the health workers (Age, Sex, Profession, Experience in dialysis).

HDD patients at both centers (N=11) men (8/11), young (54 years), hypertensive (90%), hardly diabetic (9.1%) and without ischemic heart disease.
Causes of kidney disease: polycystic disease 45% and glomerulopathies 36.4%. Arrival at HDD of various origin: ACKD 36.4%; center HD 27.3%; PD 18.2%; TR: 18.2%. With higher education (72.7%) and active labor force (54.5%).
We complete the profile with SF-12 Health-related Quality of Life. Patients rate themselves with 11/15 points: 73.3% of maximum score in physical part. Mental component is 69.1% of the maximum emotional well-being.
Regarding satisfaction with home dialysis, we analyzed: Quality of care received with a score of 91.89% of the maximum; Ease of Access to health care: 95.45%; Information received: 93.93% and Emotional support from the team: 94.32%.

CONCLUSIONS

The accumulated experience of peritoneal dialysis professionals has been useful in our initiation of HDD. Telemonitoring in HDD as in peritoneal, will facilitate the work from the hospital. HDD professionals have high expectations about this new technology. It will also improve the satisfaction of patients at home, already very high in our HDD programs. We believe that greater satisfaction of patients and professionals will contribute to the expansion of HDD.

P-125 - Evolution Of A Cohort Of Patients Undergoing Home Online-Hemodiafiltration During A Seven Year Follow Up Period

Ana Garcia-Prieto[1], *Almudena Vega*[1], *Eduardo Verde*[1], *Arturo Bascuñana*[1], *Marian Goicoechea*[1]

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OBJECTIVES

Online haemodiafiltration (OL- HDF) is the gold standard therapy in hemodialysis, as it reduces all-cause mortality. Home hemodialysis facilitates frequent therapy, and it is possible to perform OL-HDF at home, althought there is lack of evidence on its use. We report the evolution of a cohort of patients undergoing home OL-HDF during a 7 year follow up period.

METHODS

Prospective, descriptive study to determine the evolution of prevalent and incident patients in home OL-HDF since 2016. Demographic and

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clinical variables were collected, including those related to hemodialysis technic and its potential complications.

RESULTS

Six patients, 5 men and one woman, with a mean age of 47 years underwent home OL-HDF during follow up. The caregiver was the couple in all cases except one where the son and daughter were in charge. Five patients had an arteriovenous fistula (AVF) and one had a catheter. After a mean training period of 2 months at hospital, they started home OL-HDF with the assitance of a nephrologist, a nurse and a technician in the first session at home. We used the "5008-home"®FMC monitor and the AquaC®FMC for water treatment. Water cultures allways fulfilled the criteria for ultrapurity. Dialysis scheme was 3 hours sessions, 4 days a week.

During a mean follow up of 33 months, four patients received a kidney transplant. One needed hospitalizations because of gastrointestinal bleeding. The patient with catheter needed two catheter replacement due to hole site infection and one hospitalization due to catheter related bacteriemia. One patient attended the emergency room once for fluid overload and needed ultrafiltration. One patient with AVF required angioplasty. Regarding dialysis efficacy, mean week KtV was over 2.1 in all cases and mean convective volumen achieved was 94 l/week.

CONCLUSIONS

In our experience, home OL-HDF is a safe and effective technic.

Table 1. Patient demographics (Abstract no P-126)

	n	
Age range		
18 to 24	1	3 %
25 to 34	2	7 %
35 to 44	2	7 %
45 to 54	9	31 %
55 to 64	10	34 %
65 to 74	2	7 %
75 to 84	2	7 %
85 or older	1	3 %
Gender		
Female	16	55 %
Male	13	45%
Ethnicity		
Black	12	41 %
White	8	28 %
Asian	7	24 %
Other	2	7 %
Education		
Bachelor's degree or higher	13	45 %
Technical/ Vocational training	3	10 %
Diploma or equivalent	6	21 %
Completed high school	3	10 %
Not completed school	4	14 %
Current employment status		
Employed for wages	9	31 %
Self-employed	1	3 %
Out of work due to health issues	8	28 %
Out of work due to other reason	3	10 %
Student	1	3 %
Retired	7	24 %
Comorbid status		
Diabetes or high sugar	9	31 %
Heart disease	6	21 %
Significant hearing difficulty	1	3 %
Significant visual impairment	2	7 %
Difficulty walking of climbing stairs	12	41 %
Difficulty dressing or bathing	7	24 %
Duration of HHD at WLRTC		
Less than 3months	1	3 %
At least 3months but less than 1year	4	14 %
At least 1year but less than 5years	20	69 %
5years or more	4	14 %

P-126 - Patient Reported Experience Measure Of Home Haemodialysis At Imperial College Renal And Transplant Centre.

*Oshini Shivakumar[2], Emily Davenport[1], Neill Duncan[1], Eden Jeanne Cacal[1], Sally Punzalan[1], **Normandy Coloma**1*

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OBJECTIVES

Trending now, is a drive to expand home dialysis in the United Kingdom. The West London Renal and Transplant Centre (WLRTC) serves a multi-ethnic cohort in a population dense zone. To elucidate barriers to the above, instruments to explore patient reported experience measures (PREM) are vital. Rivara et al, developed and published in 2021, the first English language instrument which incorporates aspects of service widely recognised as key components of high-quality home dialysis care.

METHODS

Single centre observation study of patient experience of home haemodialysis (HHD) in WLRTC. All patients actively on HHD were approached with an adapted questionnaire, during the month of June 2022.

RESULT

29 of 37 patients responded. Table1 illustrates key demographics. 20patients had been on HHD for at least 1year but less than 5 years, and 4 patients for more than 5years. One patient had been on HHD for ≤3months, hence excluded in further analysis. 24patients rated their overall mental or emotional health as either 'Good', 'Very good' or 'Excellent'. 9 reported of difficulty doing errands alone, such as visiting a doctor's office or shopping. 24 patients reported 'Usually' or 'Always' staff spent enough time with them. 21patients felt the staff were 'Usually' or 'Always' able to help with problems encountered during HHD. 20 reported they were informed of dietary restrictions. 26patients felt they were involved in

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treatment decision and 27 reported their HHD team made sure their dialysis plan worked for them. All 28 patients reported confidence in caring for their dialysis access and performing their dialysis safely at home.

CONCLUSIONS

The findings reveal a multi-ethnic cohort with a bias towards patients with a level of educational attainment, functional independence, and minimal burden of co-morbidities. Patient satisfaction is vital to sustainability of the HHD programme. These factors have been reassessed this June for continual development, yet to be analysed.

P-127 - Mental Health In Patients With End Stage Kidney Failure

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OBJECTIVES

Chronic kidney disease is a multifaceted problem having both physical and psychological connotations for the patient.
Depression, anxiety, suicide and delirium are common complications observed in patients with renal failure. Also, diminished mental health is associated with increased morbidity and mortality and may contribute to loss of independence and motivation in patients receiving dialysis and their caregivers. The aim of our study is to evaluate the mental health of patients with a chronic illness.

METHODS

A total of 57 consecutive patients of chronic kidney disease undergoing hemodialysis were included in the study with their consent.
The psychiatric interview was conducted only after the dialysis procedure was over. Patients were assessed using the Schedule for Clinical Assessment in Neuropsychiatry and Hamilton rating scale for depression.

RESULTS

A total of 57 patients in the range of 20 - 65 years were included in this study. Most of the sample was male (54%) and (46%) were females.
Out of the patients enrolled in the study group, 22% had psychiatric comorbidity which included depression (8%), generalized anxiety disorder (9%), mixed anxiety and depression (5%) indicating that patients undergoing hemodialysis are more likely to have mood disorders than other psychiatric disorders.

CONCLUSIONS

Psychiatric comorbidity was significantly higher in CKD patients undergoing hemodialysis.
Patients with recent-onset dialysis are significantly more prone to develop psychiatric disorders.

P-128 - Developing An Intervention Bundle To Enhance Uptake Of Home Therapies For Patients With Kidney Failure In The UK: Results Of The Inter-Cept Study

Simon Davies[2], Lestyn Williams[1], Mark Lambie[2], Louise Weight[2], David Coyle[3], Sarah Damery[1], James Fotheringham[4], Kerry Allen[1], Ivonne Solis-Trapala[2], Jessica Potts[2]

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[3]Patient Lead, Devices for Dignity MIC
[4]University of Sheffield

OBJECTIVES

Enabling care to be delivered at home is key to improving patient experience and to the future resilience of health care systems. However, there is inequity of access to home dialysis, especially among ethnic minorities and socially deprived patients. Inter-CEPt aimed to understand the factors driving centre variation in uptake of home dialysis, and to design an intervention bundle to overcome these.

METHODS

We used mixed multi-disciplinary research methods and the NASSS framework to understand determinants of home therapies usage. Centre-level factors influencing uptake were identified from ethnographies of four renal centres in the English NHS and graphical Markov modelling incorporating results from a national survey with patient-level data from the UK renal registry. Drawing on principles of co-production and theories of behaviour change, findings were used to develop an intervention 'bundle' discussed at deliberative stakeholder workshops and subject to evidence review and contemporary cost effectiveness analysis.

RESULTS

The final intervention bundle reflects the importance of centre culture in shaping home therapies uptake, and the importance of adopting

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patient/person-centred practice, recognising the role of ethnicity and socio-economic factors. The bundle includes specific interventions such as assisted peritoneal dialysis and home therapies roadshows. Key change components include:
1) 'Location of care' lead roles, dispersed among renal teams, intended to be a 'landing point' and advocate for home therapies uptake across patient pathways
2) A service improvement pathway drawing on expertise and resources to promote consideration of location of care, and to enhance uptake of home dialysis

CONCLUSIONS

There is no 'blueprint' for optimising use of home therapies in kidney care. Our intervention bundle can be adapted to local contexts and is designed to address underlying issues of culture and practice that are the primary factors influencing home dialysis uptake.

P-129 - QuickCheck: A Point-of-Care Method for Rapid Cell Counting in Peritoneal Dialysis-Associated Peritonitis

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[1]*University Hospitals Birmingham, Birmingham, United Kingdom*

OBJECTIVES

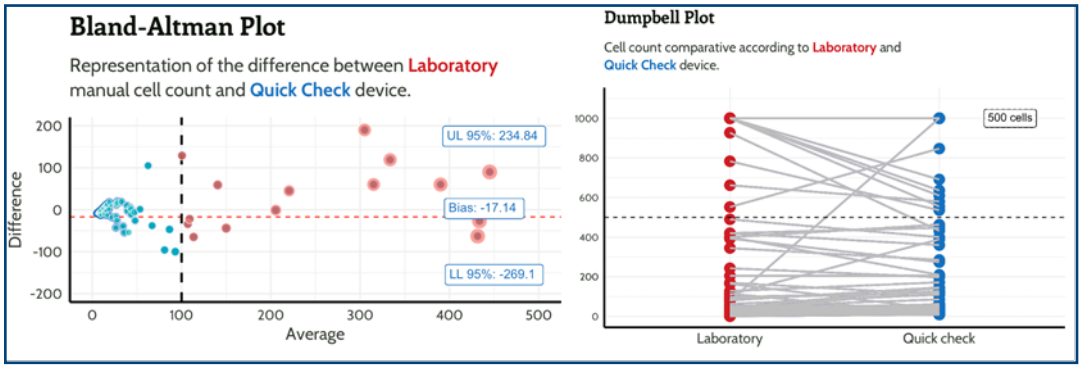
Peritoneal dialysis (PD) associated peritonitis is a severe complication, often requiring hospitalization and transfer to haemodialysis.
Diagnostic criteria include clinical features, effluent white cell count, and culture. The standard method of cell counting is manual microscopy, which is expensive and time-consuming.
QuickCheck is CE marked, point-of-care device that utilizes laser light to instantly determine the cell count.
We sought to assess the comparability in detecting the number of cells in PD effluent samples and evaluate accuracy and precision in diagnosis of peritonitis.

METHODS

A non-interventional study for method comparison was conducted
in 3 separate PD units in the United Kingdom and Ireland.
From June 2022 to April 2023, effluent samples from patients with suspected peritonitis were analyzed with QuickCheck as well as manual microscopy.
We included patients >18 y old, on PD, suspected peritonitis, and PD effluent culture. Reproducibility was assessed using intra-class correlation coefficients (ICC), validity by sensitivity, specificity, predictive values, and likelihood ratios. Bland-Altman graphs estimate bias and limits of agreement

RESULTS

89 patients were included. The median cell count was 48 (IQR 8-662) for manual microscopy and 86 (IQR 18.5-595) for QuickCheck.
The ICC agreement was 0.93 (95%CI 0.89-0.95), and consistency 0.93 (CI95%
0.89-0.95). Sensitivity was 71% and 75%, specificity 78% and 69%, PPV 83% and 78%, NPV 65% and 66%, LR+ 3.2 and 2.47, LR- 0.36 and 0.35, accuracy 74% (CI95% 64-83) and 73% (CI95% 63-82) for QuickCheck and manual microscopy, respectively.



CONCLUSIONS

QuickCheck is comparable to manual microscopy in accuracy and reproducibility in cell counting.
The high specificity with a cell count >100 cells suggests that QuickCheck is a reliable point-of-care method for rapid diagnosis and treatment of PD-associated peritonitis. Its speed, simplicity, and portability make it an attractive option for use at the point-of-care.

P-130 - Safety Of Early PD Catheter Reinsertion After Catheter Removal For PD Related Infections.

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OBJECTIVES

Peritoneal dialysis (PD) related infections remain common and serious complication of PD. In cases of severe /persistent PD peritonitis failing antibiotic therapy, there is often a need to remove the PD catheter. The optimum timing of catheter reinsertion is a matter of debate. There is building evidence for early reinsertion of PD catheters.
Aim of our study was to see the outcomes of early PD catheter reinsertion (< 6 weeks) after catheter removal for catheter-related infections (PD peritonitis, or exit site or tunnel infection

METHODS

This was a single centre retrospective review of outcomes for patients who underwent PD catheter removal and reinsertion for PD related infection between January 2020 to January 2022.

RESULTS

Twenty five patients (18:7::M:F) underwent PD catheter reinsertion over this period. The original reason for PD catheter removal was peritonitis (18), exit site infection (4) and tunnel infection (3). Causative organisms were - *Staphylococcus aureus* 9 (all MSSA), Gram-negative 9 (*Pseudomonas* 4), others six and culture-negative 1.
22 out of 25 catheters were reinserted percutaneously whereas three were reinserted surgically. Catheters were reinserted simultaneously in 4 (16%), within a week for 11 (44%), within 1-2 weeks for 9 (36%), and one was inserted within 2-4 weeks (4%). Mean follow up period was 11.1 months (SD ±7.1months).
Over this follow-up, 6 patients had repeat peritonitis with same organism (*S aureus* 4, atypical *Mycobacterium* 1 and *Pseudomonas* 1). Of these 6 patients, 4 had reinsertion within a week and 2 had reinsertion in 1-2 weeks' time and all the repeat episodes occurred after 4 weeks of reinsertion. So there was no relapsing peritonitis.

CONCLUSIONS

Early reinsertion of PD catheter after removal for PD related infection is a safe and feasible option and avoids the need for temporary haemodialysis.

P-131 - A Case Of Preemptive Catheter Insertion For Peritoneal Dialysis Patient Was Effective For COVID-19.

Yuki Beppu[1], *Yusuke Sonezaki*[1], *Akihiro Masaki*[1], *Shunta Kimura*[1], *Hiroshi Suga*[1], *Masahiro Nakagaki*[1], *Yuji Hidaka*[1], *Fumiko Kuwahara*[1], *Kenji Harada*[1], *Hidetoshi Kanai*[1]

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OBJECTIVES

We have experienced a case in which preemptive catheter insertion for peritoneal dialysis patient was effective for COVID-19, and report it here.

METHODS

A patient with chronic renal failure due to IgA nephropathy underwent peritoneal dialysis catheter insertion before PD started called the Moncrief and Popovich technique in X-1 year.
On March 1, X year, he had respiratory distress and wheezing. Chest Xp showed infiltrating shadow. The SARS-Cov2-PCR test was positive.
Respiratory condition was very poor with P/F ratio less than 100. After intubation and ventilator management had been started, he was admitted to the isolation ward.
The patient developed acidemia due to mixed acidosis caused by metabolic and respiratory failure. CHDF was started on the first day of admission, but the circuit was coagulated and occluded the next day.
On the 3rd sick day, PD catheter was brought out and exit site was made in an isolation ward, finally peritoneal dialysis was started. The patient was started with 2 exchanges of 2000ml PD fluids.

RESULTS

Although he was deeply sedated, his hemodynamic status was stable and easy to manage. The patient was extubated on the 7th sick day. 3 changes of PD fluids were started on the 9th day due to inadequate fluid management, but the patient's condition was good thereafter. The patient was moved to the general ward on the 17th day.
Preemptive catheter insertion enabled the patient avoid hemodynamic effects of continuous extracorporeal circulation. Moreover, contact infection due to prolonged dialysis management might have been reduced with The Moncrief and Popovich technique.
The technique has been reported to be superior in terms of peritoneal dialysis-related complications and survival rate.

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CONCLUSIONS

This preemptive catheter insertion would be effective for infectious disease requiring isolation management of stage of induced dialysis patients.

P-132 - Exit Site Infections In Continuous Ambulatory Peritoneal Dialysis– Single Center Experience.

Ana Bulatovic[1,2], *Jelena Bjedov*[1,2], *Tatjana Damjanovic*[1,2], *Aleksandar Jankovic*[1,2], *Nada Dimkovic*[3], *Radomir Naumovic*[1,2]

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OBJECTIVES

Exit site infection (ESI) is a predisposing risk factor for leading peritonitis and catheter loss. This study was to explore the prevalence and risk factors of ESI in incident PD patients. Clearly understanding the risk factors may be useful for the prevention of ESI.

METHODS

The study included PD patients who were treated in our hospital between January 2018 to January 2023 with a follow-up period of three years. Data were collected from medical histories, clinical features, nursing care methods of the exit site (ES) and processed in SPSS.

RESULTS

The study included 89 patients, 53 (59%) male and 36 (41%) female, with an average duration of PD treatment of 4.2±3 years. Out of 89 patients, 55 had one or more episodes. Total of 131 episodes of ESI were diagnosed with frequency of 0.35 episodes per patient-year in follow up period. Total of 20 (22.5%) patients had repeated episodes of infection. The most common pathogen was *S. aureus* and coagulase-negative *staphylococcus* (CoNS). Extirpation of the external muff was performed in a total of 37 (28.2%) episodes of ESI caused by *S. aureus* and *Pseudomonas aeruginosa*. Tenckhoff catheter reimplantation was performed in 15 (11.4%) episodes but in 27 (20, 6%) episodes of recurrent ESI, patients transferred to hemodialysis. There were no differences in demographic and laboratory data, presence of DM, hypertension, immunosuppression and hypoalbuminemia between the ESI and non-ESI groups. A statistically significant positive correlation was found between PD duration treatment and the frequency of ESI episodes (r=0.262; p=0.013), but not between the frequency of ESI episodes and BMI (r=0.005, p=0.960). Colonization of the nasal mucosa with *S. aureus* was found in 15 patients in whom ESI was caused by the same pathogen, without a statistically significant difference between groups (p>0.05). Poor competency of ES care and history of mechanical stress on the ES were significantly associated with increased risk of ESI (p<0,05)

CONCLUSIONS

Duration of PD treatment is the most significant risk factor for presenting of ESI. Failure of the method in about 20% of cases, indicates the need for early diagnosis, timely treatment, and constant re-education of the Exite site care.

P-133 - Has The Prophylactic Use Of Mupirocin Ointment Made A Difference In Reducing PD Catheter Exit Site Infections? – A Real-World Observational Study

Rajkumar Chinnadurai[1,2], *Henry HL Wu*[3], *Joanne Collier*[1], *Laurie Crosby*[1], *Dimitrios Poulikakos*[1,2], *David Lewis*[1,2]

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OBJECTIVES

Our hospital PD-associated infection prevention guideline was updated in 2021 to advocate the application of 2% Bactroban (Mupirocin) nasal ointment as prophylactic treatment at the PD catheter exit site during each dressing change. This study aimed to assess the effectiveness of applying mupirocin ointment to prevent PD catheter ESIs and ensure there were no adverse evolutions in the causative organisms.

METHODS

This single-centre observational study was conducted by retrospective review of electronic patient records of the patients recorded with PD catheter ESIs. A comparison was made between ESI cases in 2019 (group 1: 58 patients) and 2022 (group 2: 30 patients) (i.e. before and after the introduction of prophylactic Mupirocin application). Data including demographic information, microorganisms, associated complications and subsequent management (tunnel infections, peritonitis, and catheter removal or repositioning) was collated and analysed.

RESULTS

The ESI rate was 3.8% in 2019 and 2.6% in 2022. The median age of our cohort was 62 years (range 42-72) with Male (76%) and White ethnicity (82%) predominance. Time interval between PD catheter insertion and ESI was noted to be shorter in 2022 (3.7 vs 8

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months; p=0.03). *Staphylococcus Aureus* was the most common organism with a two-week course of flucloxacillin being the standard management approach. Complications associated with ESIs remained statistically similar between the 2019 and 2022 groups.

CONCLUSIONS

Our results show a 32% reduction in ESI rates in 2022 in comparison to 2019, suggesting the prophylactic application of mupirocin ointment has been effective in reducing rates of PD exit site infections in our centre. Importantly, there was no increase in gram-negative organism associated infections.

P-134 - Utilising Drug Levels To Guide The Management Of Peritoneal Dialysis-Associated Peritonitis

*Jenna Alsaeid[2], **Rajkumar Chinnadurai**[1,2], Henry HL Wu[3], Joanne Collier[1], Emma Hayes[1], Dimitrios Poulikakos[1,2], David Lewis[1,2]*

[1]Salford Care Organisation, Northern Care Alliance NHS Foundation Trust, Salford, United Kingdom, [2]University of Manchester, Manchester, United Kingdom, [3]Kolling Institute of Medical Research, Royal North Shore Hospital & The University of Sydney, St. Leonards, Australia

OBJECTIVES

Our hospital PD peritonitis treatment guidelines were modified in 2021, introducing measurements of vancomycin level at day 3 and gentamicin level on day 14 of antibiotic treatment to guide drug dosing. To evaluate the utilisation of drug level measurements and association with clinical outcomes in the management of PD peritonitis.

METHODS

This is a single-centre retrospective observational study in which data was collected from electronic patient records. Comparisons were made between the antibiotic management of PD peritonitis cases reported in 2019 (group 1: 63 patients) and 2022 (group 2: 48 patients). Data relating to patient demographic and clinical status, management and outcomes were collected. Data were analysed using SPSS version-26.

RESULTS

The peritonitis rate in 2019 was 0.41 episodes per patient-year, whilst it was 0.42 episodes per patient-year in 2022. Median age of our cohort was 62 years, and the groups were predominately male (67%) and of white ethnicity (85%). Gram-positive organisms (50%) were most frequently detected, in which coagulase-negative *staphylococcus* was the most common organism. Group 2 patients had a longer time interval between PD catheter insertion and their episode of peritonitis (29 vs 14 months, p= 0.006). The cumulative dose of vancomycin received by group 2 patients was significantly higher (4 vs 3; p<0.001), with median time interval between the first dose of vancomycin and subsequent doses being shorter (4 vs 5.5; p<0.05. Although 101 patients (91%) received their first dose of gentamycin, only 27 received a second or subsequent dose. 62 patients (56%) received ciprofloxacin. There were no significant differences observed between the groups in regard to overall clinical outcomes.

CONCLUSIONS

Though treatment-related clinical outcomes remain unchanged, introduction of a drug level-based dosing management strategy highlighted the indication for increasing dosing requirements to keep vancomycin within therapeutic range in patients receiving treatment for PD peritonitis.

P-135 - Seasonal Variations Of Enteric Peritonitis In Europe From RDPLF Data

***Bakhtar Pacha**[1], Frédéric Collart[1], Evelyne Maillart[1], Christian Verger[2]*

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OBJECTIVES

Little information is available on the seasonal ecology of bacteria responsible for peritoneal dialysis peritonitis.

METHODS

We performed a retrospective study based on RDPLF data covering the last 20 years and 20411 peritonitis episodes.

RESULTS

The percentage of enteric peritonitis is higher in summer (29%), lowest in winter(25%) and identical in spring (27%) and autumn (27)(X2=24,1;p<0.001) This higher proportion of organisms of enteric origin summer has itself tended to increase in recent years (R2=0.442,p<0,05)

CONCLUSIONS

We postulate that food contamination by enteric germs in the summer associated with an increased bacterial translocation at the level

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of the digestive tract, itself favoured by constipation, as well as changes in food nature could be responsible for this phenomenon. This suggests that probabilistic initial antibiotic therapy should be adapted in case of suspected peritonitis before the results of bacteriological analysis

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P-136 - Urokinase-Taurolidine To Preserve Catheter In Relapsing Peritonitis On PD

Laura Cueto[1], *Francisco Javier Ahijado Hormigos*[1], *María Ibañez Cerezo*[1], *Dionisia Arévalo Carrero*[1], *María Ángeles Gálvez Velasco*[1], *Alberto Cubas Sánchez Beato*[1], *María Antonia García Rubiales*[1], *María Ángeles Fernández Rojo*[1]

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OBJECTIVES

Relapsing peritonitis (RP) is defined as two or more episodes due to the same microorganism or culture negative in the same thirty days period after complete adequate antibiotic treatment and is intended to be due to the coexistence of a lumen catheter's biofilm. Guides usually recommend retiring or changing the catheter.

METHODS

Based on the use of fibrinolytics in preventing infection in hemodialysis catheters and in some success experience published of RP in PD, we implanted a protocol to eliminate the catheter's biofilm by adding urokinase-taurolidine (Taurolock°) to the standard antibiotic therapy. The sealing catheter protocol was as follows: 25,000 IU of urokinase reconstituted with 5 cc of taurolidine, of which 2 cc are taken and further diluted in physiological saline solution filling the respective volume catheter. Sealing was performed once weekly during a 12-hour period without abdominal fluid for a total of 4 weeks.

RESULTS

We registered peritonitis episodes in the 22 months prior to implementing urokinase-taurolidine catheter sealing protocol in May 2021 counting 9 episodes in 21 prevalent patients of which 1 was relapsing (11,1 %), and 2 required catheter removal (22,2%, monobacterial). In a similar period since May 2021 out of a total of 18 peritonitis cases in 32 prevalent patients, 3 were relapsing (9,375 %), with 2 of them having sterile cultures and 1 with a monobacterial culture, none of which required catheter removal. The addition of urokinase-taurolodine to the gold standard likely influenced the favorable outcome of this cases, with a subsequent follow-up of 3 to 22 months without new episodes.

CONCLUSIONS

Despite the small number of patients, the well-established data on the effect of urokinase on bacterial biofilms in vascular catheters made of practically identical material to PD catheters support its additional utility in conventional treatment and to some extent as a preventive measure against recurrence.

P-137 - Successful Treatment With Localized Heating Of Exit-Site Infection Due To *Mycobacterium Chelonae*

Andreia Curto[1], *Inês Alexandre*[1], *Catarina Brás*[1], *Afonso Santos*[1], *Adelaide Serra*[1], *Fernando Domingos*[1]

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OBJECTIVES

Exit site (ES) peritoneal dialysis (PD) catheter infections by nontuberculous mycobacteria (NTM) are rare and should be considered for an ES infection that fails to respond to usual antibiotic therapy. Treatment protocols for NTM ES infection are not well established, and sometimes may require PD catheter removal. We report the successful treatment of an *M. chelonae* exit-site infection using a combination regimen of antibiotic and local thermal therapy.

METHODS

A 74-year-old male patient with medical history of psoriasis, hypertension and chronic kidney disease grade 5 had 1-year history of manual PD, with only one previous ES infection, without concomitant peritonitis, successfully treated. He was observed after recognizing a purulent drainage from the ES of the PD catheter. He was empirically treated with trimethropim-sulphametoxazole, with clinical improvement, during 7 days. Bacterial cultures of the ES exudate were performed two times and were positive after 17 and 13 days of room temperature incubation. *Mycobacterium species* were observed by acid-fast staining of the exudate from the ES, and M. chelonae was identified by polymerase chain reaction 3 weeks later. Laboratory values concerning leucocyte count and C-reactive protein were within normal range. The patient was started on clarithromycin 400 mg/day. There was no infection of the external cuff, nor evidence of peritonitis. The patient refuse PD catheter removal. A direct localized heating by pocket warmers was started. After 2 weeks, the ES showed no signs of infection. Clarithromycin was discontinued after 2 months. Local warmers were applied for 3 additional months. No recurrence of ES infection by NTM was observed.

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CONCLUSIONS

Mycobacterium chelonae causes the second-highest number of PD-associated NTM infections. M. chelonae growns only at room temperature. This is the theoretical ground for thermal therapy. To our knowledge there is only one other report of successful thermal treatment of ES infection without PD catheter removal.

P-138 - Renal Transplantectomy In Peritoneal Dialysis : A Three Case Report

Loubna Benamar*[1]*, *Sara El Maakoul*[1]*, Nabil Hmaidouch*[1]*, Kaoutar Benraiss*[1]*, Rabia Bayahia*[1]*, Naima Ouzeddoun*[1]

[1]*CHU Ibn Sina Rabat-Faculty of Medicine and Pharmacy, Rabat, Morocco*

OBJECTIVES

Renal transplant necrosis is a major complication following return to dialysis, which may present as an uncommon clinical presentation. Renal Transplantectomy (RT) is recommended in the absence of other identified causes. We report three cases of former transplant patients currently on peritoneal dialysis (PD) who underwent RT.

METHODS

We collated all renal transplant patients in our department who had returned to PD and required RT.

RESULTS

We present 3 patients, 2 men and one woman with an average age of 40 years. They have all received a kidney transplant from a living donor at low immunological risk in 2 cases and at high immunological risk in 1 case. The average duration of renal transplantation was 11 years.
The causes of return to dialysis were chronic graft dysfunction in 2 patients and acute cellular rejection in one patient.
After an average delay in PD of 22 months, 2 patients developed asthenia and significant weight loss. Four-therapy-resistant hypertension was noted in one patient.
It is associated with a chronic inflammatory syndrome (CIS) with hyperferritinemia, hyperfibrinogenemia, a very high C-reactive protein level, and anemia resistant to erythropoietin-stimulating agents.
Investigations for immunological, neoplastic and infectious etiologies, particularly tuberculosis, were negative, with a normal radiological investigation.
The third patient developed an acute fever and severe graft pain, and the echodoppler showed avascularity in favor of graft necrosis.
All patients underwent RT. Pathological examination showed graft necrosis in all patients.
The evolution was favorable, with weight gained, appetite restored, CRP negativation and correction of hypertension one month after RT.
We maintained peritoneal dialysis in all patients.

CONCLUSIONS

CIS and erythropoietin resistance may uncover graft necrosis in renal transplant patients with graft function failure despite a normal radiological checkup. Transplantation may improve survival in these patients.

P-139 - Profile of Peritonitis in Peritoneal Dialysis Over 10 Years

Mohamed Ben Hmida[1,2]*, Beya Fandri*[1,2]*, Hanen Chaker*[1,2]*, Mouna Riguen*[1,2]*, Najla Dammak*[1,2]*, Salma Toumi*[1]*, Fatma Mseddi*[1,2]*, Soumaya Yaich*[1,2]*, Khawla Kammoun*[1,2]

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OBJECTIVES

Infectious peritonitis (IP) remains one of the most dreaded complications in peritoneal dialysis (PD). Nephrologists must continuously monitor peritonitis rates to detect any changes in their profiles. The aim of this study is to determine the rate of peritonitis, the responsible organisms, and associated risk factors.

METHODS

This is a retrospective study including PD patients who have experienced at least one episode of peritonitis during their follow-up. We recorded peritonitis rates, responsible pathogens, and analysed risk factors associated with peritonitis occurrence.

RESULTS

During the study period, we collected 46 cases of infectious peritonitis among 71 patients followed (64.7%). The mean age was 54.7 years (17-84 years) with a male-to-female ratio of 2.5 (33 men and 13 women). Thirty-five patients had hypertension, 3 had diabetes, and

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3 had a cardiac pathology. The initial nephropathy was indeterminate in 36.9% of cases, chronic interstitial nephritis in 32.6% of cases, glomerular disease in 21.7% of cases, and diabetic or familial nephropathy in 4.3% of cases. The mean peritonitis rate was one episode per patient every 44.33 months. The time of occurrence relative to the start of dialysis was 12.47±15.36 months. The modality of PD was CAPD in 56.5% of cases, automated peritoneal dialysis (APD) in 32.5%, and continuous cyclic peritoneal dialysis (CCPD) in 10.5%. We observed a decrease in the peritonitis rate in the last 5 years (2015-2020) with one episode every 54 months per patient compared to one episode every 34 months per patient (2010-2015). The majority of infections were caused by Gram-positive bacteria (24.7%), Gram-negative bacteria (21.5%), and Candida (1%), with no germ identified in 52.6% of cases. The outcome under antibiotics was favourable in the majority of cases; two patients had encapsulating peritonitis, and one of them died. Dialysis was discontinued in 2 patients (4.3%) due to peritonitis. The analytical study showed that male gender was significantly associated with the occurrence of peritonitis (p=0.009).

CONCLUSIONS

Through our study, we emphasize the importance of continuous review by various stakeholders in PD (nephrologists and nurses) to identify the different factors involved in peritonitis occurrence.

P-140 - Acute Appendicitis Revealed By Peritonitis In A Peritoneal Dialysis Patient.

Hajar Fitah[1,2], *Sara El Maakoul*[1,2], *Nabil Hmaidouch*[1,2], *Rabia Bayahia*[1,2], *Naima Ouzeddoun*[1,2], *Loubna Benamar*[1,2]

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OBJECTIVES

Peritonitis is the most serious infectious complication in peritoneal dialysis.
Acute appendicitis is a surgical emergency and is rarely reported in peritoneal dialysis (PD) patients. It can be complicated by peritonitis with a varying clinical and radiological presentation.

METHODS

A 39-year-old male patient has been on continuous ambulatory peritoneal dialysis (CAPD) since July 2021. Six months after starting dialysis, he presented his first peritonitis caused by *Staphylococcus aureus*, treated with Cefazolin, with good improvement. Two years later, he reported a second culture-negative peritonitis. He is treated with Cefazolin and Ceftazidime, and a single dose of Aminoside .

RESULTS

The evolution after 48 hours of therapy was worsening, both clinically and biologically, with persistent abdominal pain, cloudy dialysate fluid. Abdominal CT scan revealed acute latero-caecal appendicitis, leading to laparoscopic appendectomy to preserve the peritoneum, and PD was resumed at low volume after 72 hours without the need for hemodialysis. The evolution was favourable, and the patient is still on PD with preserved residual renal function.

CONCLUSIONS

Refractory peritonitis must lead to the search for and treatment of a local cause in order to avoid failure of the technique, catheter dysfunction and mortality.

P-141 - A Single Centre Experience Of The Use Of A Point Of Care Device For The Diagnosis Of Pd Peritonitis

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OBJECTIVES

QuickCheckTM is a point-of-care diagnostic device which provides an instant leukocyte count. It is more accurate and precise than traditional laboratory-based methods currently in use.
Over the last 12 months, we have integrated this novel device into our standard practice for investigating and diagnosing peritoneal dialysis (PD)-associated peritonitis.
We aimed to examine the effects of this device on our peritonitis pathway, staff experience and the patient journey.

METHODS

All suspected cases of PD-associated peritonitis were tested using the QuickCheckTM device. If the white cell count (WCC) was found to be >100/µl, then treatment was started, and a sample was sent to the laboratory for culture and sensitivities. The lab used a haemocytometer for cell count.
We compared the difference in time taken for results between the QuickCheckTM device and laboratory-based cell count. We reviewed how often results from the laboratory were reported out of hours (after 5pm, Monday to Friday).

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We collected anecdotal experiences from nursing staff about instances whereby the device helped to improve the patient journey and streamlined the diagnostic and treatment pathway.

RESULTS

Over the 12 months, we used the QuickCheckTM device on 56 samples of peritoneal fluid.
31 samples had WCC >100/µl and treatment was started immediately. Out of these, 16 samples returned laboratory-based WCC out of hours. 25 samples had WCC <100/µl and patients could be discharged.
The mean time between a sample being collected and results being authorised from the laboratory was 250 minutes. The median time between a sample being received in the laboratory and results being authorised was 86 minutes.
We will outline individual experiences in our final submission.

CONCLUSIONS

The QuickCheckTM device has enabled a more efficient PD peritonitis pathway. It has shortened the time to diagnosis, reduced pressure on the out of hours staff and mitigated the carbon footprint of our service.

P-142 -

Abstract cancelled by author

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P-143 - Peritoneal Dialysis Infections In Malta: An Overview Of Fifteen Years

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OBJECTIVES

Peritoneal dialysis (PD)-related infections are linked with an increased risk of morbidity and mortality. We describe our experience of PD peritonitis and catheter-related infection (CRI) rates in Malta over the last fifteen years.

METHODS

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All patients undergoing PD from 2008 to 2022 were included. Data from 2008 to 2012 was retrospective (shown as mean), whilst data from 2013 onwards was prospective. International Society of Peritoneal Dialysis (ISPD) peritonitis guideline definitions were followed.

RESULTS

Study population sizes from 2008 to 2022 were: 137 (2008 to 2012), 91, 80, 126, 117, 102, 103, 101, 101, 120 and 125. PD peritonitis rates from 2008 to 2022 were: 0.38, 0.31, 0.35, 0.46, 0.43, 0.57, 0.54, 0.43, 0.39, 0.4, 0.46, 0.37, 0.29, 0.38 and 0.41 episodes/patient-year. Peritonitis caused by Gram-positive organisms predominated. The majority of infections from 2008 to 2021 were caused by Staphylococci, whilst Streptococci caused most infections in 2022. Methicillin-resistant *Staphylococcus aureus* (MRSA) peritonitis rates have improved with no episodes being recorded in 2016, 2017, 2019, 2021 and 2022. Coagulase-negative Staphylococcal peritonitis rates have also dropped. With regards to Gram-negative peritonitis, *Pseudomonas* rates have declined with no episodes occurring in 2016 and in the last three years. *Escherichia coli* rates have risen to 0.04 episodes/patient in 2022. Fungal peritonitis rates have remained consistently low with 0.01 episodes/patient in 2013, 2018, 2019, 2020 and 2022. CRI rates were: 0.39 (2008 to 2012), 0.35, 0.91, 0.37, 0.38, 0.25, 0.5, 0.29, 0.22, 0.25 and 0.33 episodes/patient-year. Overall, CRIs were mainly attributed to Gram-negative bacteria. CRIs caused by *Pseudomonas* have decreased over the last four years. The majority of Gram-positive CRIs were caused by Staphylococci. No MRSA CRIs occurred in 2019, 2021 and 2022.

CONCLUSIONS

The Maltese PD cohort has mostly been achieving ISPD target requirements. Both PD peritonitis and CRI rates have declined over the last fifteen years.

P-144 - Outcome Of Repeat Peritonitis In Peritoneal Dialysis : Three Cases Report

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OBJECTIVES

Peritonitis is a major complication in peritoneal dialysis, it can frequently lead to discontinuation of the technique, particularly in repeat peritonitis.

METHODS

We report three cases of repeat peritonitis.

RESULTS

The first case reported is that of a 17-year-old patient, she was diagnosed with three episodes of peritonitis caused by Serratia marcescens after six years on PD , all of which progressed favorably with adapted antibiotics . Replacement of the PD catheter was indicated in order to control the infection, given the unusual nature of this germ. One year after catheter replacement, the patient has no more peritonitis.

The second case concerns a 45-year-old patient who had been receiving continuous ambulatory peritoneal dialysis (CAPD) for three years for CKD due to autosomal recessive polycystic kidney disease. During her follow-up, she had suffered four cases of peritonitis caused by the same germ (*E.Coli*); the last two episodes were defined as repeat peritonitis . They all resolved well under antibiotic therapy. Digestive investigations showed no organic cause. Catheter removal was indicated to avoid further episodes.

The last case involves a 74-year-old patient with CKD secondary to diabetic nephropathy, who had been on PD for three years. He had six episodes of peritonitis, caused by *Enterococcus* and *Staphylococcus*, which were responsive to treatment. In one year, he suffered two episodes of repeat peritonitis caused by *Staphylococcus*, the last of which was complicated by superinfection by Candida parapsilosis, leading to removal of the catheter, and the patient's transfer to haemodialysis.

CONCLUSIONS

Repeat peritonitis, either due to the same organism or to atypical organisms, or with fungal pathogen selection following the use of broad-spectrum antibiotics, leads us to recommend catheter removal in order to preserve the vital prognosis. In some cases, the technique may be resumed once the causative organism is eradicated .

P-145 - Epidemiological Indicators Of Infectious Complications In Patients On Peritoneal Dialysis-Experience Of A Single Center In Serbia

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OBJECTIVES

Infectious complications of peritoneal dialysis (PD) represent one of the leading causes of transfer of these patients to hemodialysis. The International Society for Peritoneal Dialysis (ISPD) published clear recommendations for treating infectious complications in PD patients and indicators of the quality of PD centers functioning.

METHODS

Aiming to determine the epidemiological indicators and outcomes of treatment of PD patients' infectious complications, we conducted a retrospective study in 179 PD patients treated from January 2018. to Jun 2022. in the Clinic for Nephrology, University Clinical Center of Serbia over five years.

RESULTS

In the period of 66 months, 130 episodes of peritonitis and 134 episodes of PDCRI were recorded. The highest percentage of patients with peritonitis and PD catheter-related infections (PDCRI) was 27.3% and 34% in 2018, respectively, but later no more of 20% of patients had peritonitis episode. Overall, peritonitis and PDCRI rates were 0.33/patients year at risk. From the total number of patients 7.8% were transferred to hemodialysis and 10% of patients had more than one peritonitis episode. Each year, the number of episodes of culture-negative peritonitis was higher than 25%. A constant decrease in the number of episodes of peritonitis caused by coagulase-negative *staphylococcus* and a significant increase in the number of episodes of PDCRI caused by Gram-negative bacteria was observed (from 39.2% in 2018 to 9.09% in 2022, and from 18.9% in 2018 to 36.8% in 2022 respectively). Due to persistent PDCRI and tunnel infections, 15 PD catheter evacuations and replacements were performed.

CONCLUSIONS

The high prevalence of culture-negative peritonitis indicates the need to improve the techniques of peritoneal dialysate sampling and microbiological isolation. The number of episodes of PDCRI and the increase in PDCRI caused by Gram-negative pathogens point to inadequate care of PD catheters and indicate the necessity of retraining patients.

P-146 - Risk Of Pd Peritonitis And Outcomes For Immunosuppressed Patients On Peritoneal Dialysis: A Single Centre Review

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OBJECTIVES

Peritonitis is a serious complication of peritoneal dialysis (PD) leading to PD catheter loss, unplanned transfer to hemodialysis (HD) and increased mortality. Many renal patients require immunosuppression, and this may be considered a barrier for patients when considering PD as a renal replacement therapy choice.

METHODS

We carried out an observational study of incident PD patients over 5 years. We identified patients on Immunosuppressants while on PD. We recorded episodes of peritonitis and evaluated the outcomes in all groups.

RESULTS

220 patients started PD from 2017 to 2021. 16 were on immunosuppressants. Six (37%) immunosuppressed patients developed peritonitis, with four (67%) having two or more episodes. In the non-immunosuppressed patients, 95 (46%) developed peritonitis, with 47 (50%) having multiple episodes.

CONCLUSIONS

Table 1 Outcomes according to immunosuppression (IS) and peritonitis status

Outcomes	IS + peritonitis (n=6)	IS without peritonitis (n=10)	No IS + peritonitis (n=95)	No IS without peritonitis (n=109)
Continued PD	1 (17%)	5 (50%)	19 (20%)	28 (25%)
Transfer to HD	3 (50%)	1 (10%)	33 (35%)	21 (19%)
Transplanted	-	2 (20%)	18 (19%)	32 (29%)
Died	2 (33%)	3 (30%)	22 (23%)	24 (22%)
Other	-	-	3 (3%)	4 (4%)

In this single centre cohort, PD patients on immunosuppressants did not have more episodes of peritonitis but were more likely to develop multiple episodes. In both groups patients with peritonitis were more likely to transfer to HD, and less likely to be transplanted. Our study

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supports existing data showing that peritonitis is a major cause of technique failure and mortality but does not suggest that this risk is increased by immunosuppression. Our data supports the view that immunosuppressed patients should be offered PD as a RRT treatment choice.

P-147 - Negative Pressure Wound Therapy, Our New Ally

Natalia Menéndez García[1], *Carmen Rodríguez Suárez*[1], *Leire Muñoz Hernando*[1], *Sonia Amoza País*[1], *Raquel Rodríguez Uría*[1], *Elena Astudillo Cortés*[1]

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OBJECTIVES

Negative pressure wound therapy (NPWT) is a non-invasive wound healing technique used for the treatment of a wide range of complex wounds. It involves the placement of an adhesive dressing connected to a vacuum pump that suctions exudate from the wound, creating a wound-healing environment. Its applicability has been studied in postoperative care of the peritoneal dialysis (PD) catheter exit site in order to prevent local infection. The aim of our study is to examine the efficacy of THPN in the treatment of PD catheter exit site infections and tunelitis.

METHODS

This is an observational and retrospective study, in which we enrolled 10 patients with complicated PD catheter exit site infections, with poor response to topical and systemic antibiotic treatment. The orifice was surgically cleaned by removing the granulation tissue and NHPT was applied.

RESULTS

All of them underwent surgical cleaning of the orifice and application of THPN. The cure of the infection, understood as total closure of the surgical wound, occurred in an average time of one month. None of these patients developed peritonitis or required removal of the PD catheter.

CONCLUSIONS

Exit site infections and catheter tunnel infections are the main predisposing factors for PD-related peritonitis. In our experience, the addition of NPWT provides greater therapeutic benefit in the treatment of complicated PD catheter exit site infections than isolated surgical cleaning.

P-148 - The First Reported Case In Italy Of *Achromobacter Xylosoxidans* Peritonitis In A Patient On Pd Affected By Systemic Lupus Erythematosus

Dario Musone[1], *Valentina Nicosia, Carolina Ruosi, Riccardo D'Alessandro, Giuseppe Saltarelli, Francesco Paolo Steri, Marco Andrietti, Sofia Giuliana, Claudia Elefante, Antonio Treglia*

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OBJECTIVES

Achromobacter xylosoxidans, a Gram-negative aerobic bacterium, is a rarely reported cause of peritonitis in peritoneal dialysis (PD) patients. 13 cases of *A. xylosoxidans* peritonitis have been described, mainly in immunocompromised individuals. Few data are available about clinical characteristics, prognosis or proper treatment. We report the first case in literature of *A. xylosoxidans* peritonitis in Italy.

METHODS

Patient data were obtained from medical file. To reduce false negatives fluid specimen for culture was obtained after 20 minutes of sedimentation. Literature review.

RESULTS

We report a 48 y/o female case on PD for 10 years with systemic lupus erythematosus in therapy with prednisone and mycophenolate. She faced several PD non-infective and infective complications through the years: leakage due to a peritoneal vaginal fistula after surgery for uterine cancer, omental wrapping (both solved with videolaparoscopy); Gram-negative tunnel infections (in one case treated with catheter splicing and derivation); three peritonitis episodes (*E. cloacae, E. faecalis, K. pneumoniae*). In the last peritonitis episode, *A. xylosoxidans* was isolated. According to antibiogram we administered intraperitoneal meropenem and oral ampicillin successfully (dialysis effluent white cell count < 100 μl on day 3). She unfortunately encountered a relapsing peritonitis three weeks after completion of therapy so, in accordance with ISPD guidelines, catheter removal was carried out.

CONCLUSIONS

This case is epidemiologically consistent with literature confirming the pathogenetic rule of *A. xylosoxidans* in immunocompromised

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patients. Our report also confirms the limited efficacy of antibiotic therapy likewise in 11 of 13 cases already described. This poor outcome is probably correlated to the well-known *A. xylosoxidans* intrinsic resistance to antibiotics and efficiency of biofilm forming ability. This experience emphasizes that further studies to better define measures on biofilm producing bacteria and to answer to the question of whether or not to remove peritoneal catheter after *A. xylosoxidans* related peritonitis diagnosis are mandatory.

P-149 - Improved Identification Of Causative Organism In Pd Peritonitis Achieved Using Water Lysis Culture Technique And 16s Rna Gene Sequencing

Luxme Nadarajah[1], *Holly Ciesielczuk*[1,2], *Ian Butler*[1], *Johnathan Lambourne*[1], *Caoimhe Nicfhogartaigh*[1,3], *Stanley Fan*[1,4]

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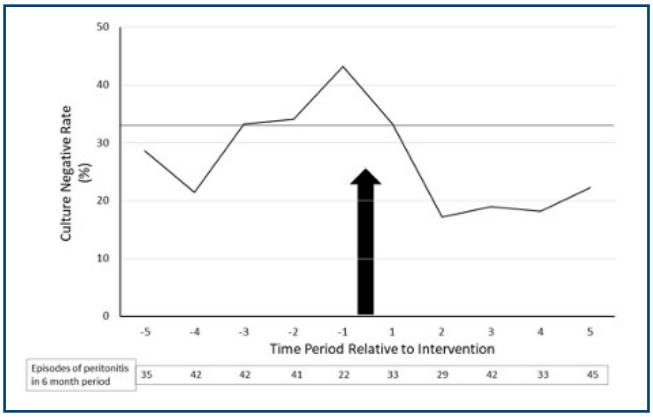
OBJECTIVES

PD peritonitis and its complications is a Key Performance Indicator of a successful program. Identifying the causative organism allows for targeted antimicrobial treatment which can improve cure rates and ISPD recommends that Culture negative (CN) peritonitis rates should be <15%. We conducted a Quality Improvement Project in 2018 to decrease our CN peritonitis rates.



METHODS

50 mL of PD effluent was collected and using 15 mL of sterile water, an additional lysis step was introduced prior to inoculation of blood culture bottles for incubation. Some CN samples were further analyzed using 16s RNA gene sequencing. Data was analyzed using Chi squared test.

RESULTS

There were 336 cases of PD peritonitis between 2016-2020. 135 cases prior to the initiation of the water lysis step and 201 cases after the introduction of the water lysis step. The rate of CN peritonitis prior to our change in PD effluent culture methodology was 33% (45/135). Following introduction of water lysis, CN rate fell below 33% for the subsequent five 6-month periods ($p<0.05$). Overall, CN rate fell significantly to 20% (41/201) ($p<0.01$). We performed 16S gene analysis on 24 CN samples and identified an organism in 5 (21%).

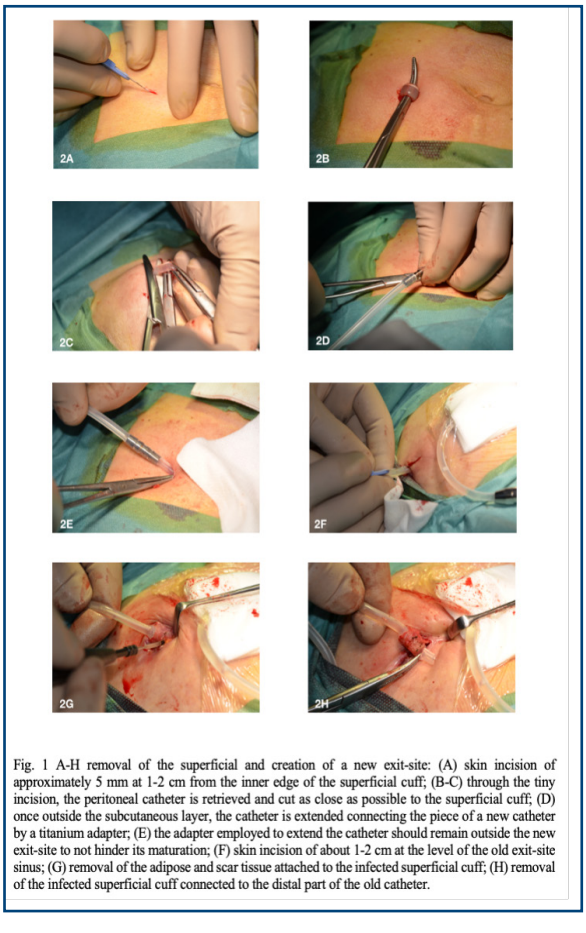


Fig. 1 A-H removal of the superficial and creation of a new exit-site: (A) skin incision of approximately 5 mm at 1-2 cm from the inner edge of the superficial cuff; (B-C) through the tiny incision, the peritoneal catheter is retrieved and cut as close as possible to the superficial cuff; (D) once outside the subcutaneous layer, the catheter is extended connecting the piece of a new catheter by a titanium adapter; (E) the adapter employed to extend the catheter should remain outside the new exit-site to not hinder its maturation; (F) skin incision of about 1-2 cm at the level of the old exit-site sinus; (G) removal of the adipose and scar tissue attached to the infected superficial cuff; (H) removal of the infected superficial cuff connected to the distal part of the old catheter.

CONCLUSIONS

Introduction of water lysis of peritoneal effluent significantly decreased CN peritonitis rates but did not reach the ISPD target recommendation of <15%. The use of 16s RNA gene sequencing showed promise, but cost and logistics remain issues that limit adoption. We recommend that introducing water lysis step is a simple cost-effective method to improve CN rates. We suggest further research into use of other bench techniques (eg Triton-X instead of water) or molecular microbiological methods to improve CN rates further.

P-150 - Exit Site Relocation By External Splicing And Cuff Removal After Ultrasonography Evaluation: An Effective Rescue Treatment For Refractory *P. Aeruginosa* And *S. Aureus* Tunnel Infection With Superficial Cuff Involvement

Luca Nardelli[1,2], *Antonio Scalamogna*[1], *Federica Tripodi*[1], *Giuseppe Castellano*[1,2]

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OBJECTIVES

Peritoneal dialysis (PD) catheter related infections continue to be a major cause of morbidity and transfer to hemodialysis in PD patients. The

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treatment of tunnel infection (TI) could be challenging, especially when the infection involves the superficial cuff requiring the removal of the catheter.

METHODS

After having detected by ultrasonography the superficial cuff involvement without spread of the infection beyond this point, we employed the exit site relocation by external splicing and cuff removal to treat 7 cases of refractory TI without secondary peritonitis (fig. 1). After the surgical procedure, the antibiotic treatment was continued for further three weeks and patient follow-up ended at 3 months.

RESULTS

The demographic and clinical details of the 7 participants are shown in Tab. 1. Among the 7 infectious episodes, 4 were sustained by *Pseudomonas aeruginosa* (*P. aeruginosa*), while 3 by *Staphylococcus aureus* (*S. aureus*). The ultrasound exam revealed in all cases the dissemination of the infectious process to the superficial cuff by the detection of anechoic collection with a diameter > 2 mm (mean value 3.05 mm ± SD 0.79 mm; tab. 1) around the cuff located more than 2 cm from the exit-site. The removal of the superficial cuff with the creation of a new exit-site was successful in all cases (7/7, 100%), indeed after 3 months from the surgical procedure we did not observe any infection relapse.

CONCLUSIONS

	ID-1	ID-2	ID-3	ID-4	ID-5	ID-6	ID-7
SEX (M= male; F= female)	F	M	F	M	F	M	M
AGE (years)	49	69	81	70	54	55	68
KIDNEY DISEASE	ADPKD	Unknown	Unknown	Diabetic Neph	Cardiorenal type II	IgA Neph	Membranous Neph
TIME ON PD (months)	11.4	4.3	17.4	26.2	3.2	15.7	34.4
PRE ATB THERAPY	cepha-->cipro	cefa-->vanco	cepha-->cipro	cephalexin	cepha-->cipro	cephalexin	cepha-->cipro
MICROORGANISM	P. aeruginosa	S. aureus	P. aeruginosa	S. aureus	P. aeruginosa	S. aureus	P. aeruginosa
DUR PRE ATB THERAPY (days)	28	21	25	19	27	18	24
DIM AREA SUP CUFF (mm)	2.22	2.45	2.31	3.66	2.82	3.81	4.11
MAX DIM AREA PERICAT (mm)	3.24	3.64	3.43	7.82	3.55	4.13	5.43
POST ATB THERAPY	ciprofloxacin	vancomycin	ciprofloxacin	cephalexin	ciprofloxacin	cephalexin	ciprofloxacin
DUR POST ATB THERAPY (days)	21	21	21	21	21	21	21
RELAPSE at 3 months	no	no	no	no	no	no	no

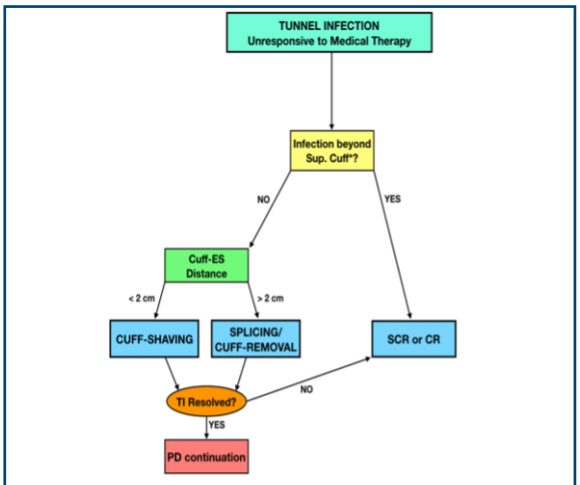

Fig. 2 Flowchart regarding the management of tunnel infection unresponsive to medical therapy. TI = tunnel infection; PD = peritoneal dialysis; sup. Cuff = superficial cuff; ES = exit-site; SCR = simultaneous peritoneal catheter removal and reinsertion; CR = peritoneal catheter removal.
*The extension of the infectious process should be assessed by physical exam (searching for erythema, swelling, induration, or tenderness over the subcutaneous pathway) and by ultrasonographic evaluation (detection of hypoechogenic area between the tube/cuff of the catheter and the surrounding tissues with a diameter > 1 mm) [modified by[10]].

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In our experience the exit site relocation by external splicing and cuff removal as rescue therapy for TI with superficial cuff involvement, but without further spread of the infection, yielded to promising results with a success rate of 100% in episodes sustained either by *P. aeruginosa* or *S. aureus*. This preliminary experience underlines the utility of tunnel echography when deciding the therapeutical approach in case of refractory TI (fig. 2).

P-151 - Short Duration Catheter Lock and Post-Antibiotic Effect : a New Technique to Treat Peritoneal Infection with Aminoglycosides.

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OBJECTIVES

Aminoglycosides are potent concentration-dependant bactericidal antibiotics, but ototoxicity and possible nephrotoxicity have limited their use in the treatment of Peritoneal Infection (PI) in PD patients. We report on two patients with relapsing *Staphylococcus aureus* PI.

METHODS

Relapses of *Staphylococus aureus* PI were treated with the adjunction of the following technique three times a week for 2 weeks, on an outpatient basis. First, a catheter lock with urokinase was left for an hour, in an attempt to disrupt the biofilm. Then a gentamycin lock (40 mg in 10 ml saline) was left for 2 hours.
Patient 1, a 83-year-old CAPD diabetic patient, was started on intraperitoneal cefazolin for PI of recent onset. Vancomycin was substituted as cultures grew methicillin-resistent *Staphylococcus aureus*. Effluent cleared, but a culture was again positive on Day 24. Vancomycin was continued, and our technique was added for 2 weeks.
Patient 2, a 52-year-old APD patient, had methicillin-sensitive *Staphylococcus aureus* PI, treated with cefazolin in the daytime exchange for 17 days. A relapse occurred two weeks later. Cefazolin was resumed, and our technique added for 2 weeks.

RESULTS

In our patients, relapse of *Staphylococus aureus* PI was cured after the adjunction of gentamycin catheter locks three times a week. No new relapse occurred until patient 1 died 15 months later, and patient 2 was transplanted 20 months later.

CONCLUSIONS

Our technique was inspired of the once-daily systemic therapy with aminoglycosides in normorenal patients, with short exposure to a very high concentration of the drug, and then reliance on its long post-antibiotic effect. Systemic exposition to gentamycin was minimal. The short duration of the lock procedure preserved the dialysis dose, and possible beneficial effects of peritoneal lavage. Its use could also be considered early in notoriously difficult to treat PI, such as those due to gram-negative bacteria.

P-152 - Impact Of Changing Microbiological Causers On Peritonitis Outcomes

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OBJECTIVES

Despite all established preventive measures peritonitis is still main complication in peritoneal dialysis. In our paper we compared microbiological profiles of peritonitis in our PD patients including outcome during two different periods of following.

METHODS

Medical records of PD peritonitis patients in Military Medical Academy between 2001. to 2010. and 2017.-2022. were reviewed. We analyzed and compare profiles of microbiological causers and treatment outcomes.

RESULTS

During the period 2001- 2010. there were 123 peritonitis episodes in 156 patients with incidence of 1 episode /29,91 patient months. A single Gram (+) organisms were isolated in 65,02 %, Gram negatives in 17,01%, polymicrobial forms in 3,25% and there were 13,09% culture negative forms. Coagulase-negative *staphylococcus* (CoNS) was the most common causer accounting for 41,46% of all peritonitis episodes (51/123), *Staphylococcus aureus* was responsible for 7,32% cases and there was one episode of fungal peritonitis (1,63%). A total of 15 patients (12,19%) required transfer to hemodialysis with 3 peritonitis –related deaths (2,44%).
In last 6 years we diagnosed 39 episodes of peritonitis in 32 patients with incidence of 0,20 pt/episodes/year, with increasing of proportion of Gram negative (28%), fungal (7,69%) and *Staphylococcus aureus* related episodes who was became leading causer in 23,09% of total episodes. We verified reducing in CoNS (17,95%) and culture negative related forms (10,25%), also there were not polymicrobial forms.

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In this period we transferred 6 patients (15,38%) on hemodialysis with 2 lethal outcomes (5,12%).

CONCLUSIONS

Decreasing rate of CoNS and culture negative related peritonitis during last 6 years is confirmation of well conducted training our patients. On the other hand, increased rate of severe forms with unfavorable outcomes in definitely reduced population of patients demands better strategy in future selection and much more serious prevention especially in vulnerable population of elderly patients.

P-153 - Evaluating the Efficacy of Chlorhexidine Gluconate-Impregnated Dressing for Preventing Catheter Insertion-Related Infection in Peritoneal Dialysis: A Single-Center Retrospective Study.

Sonoda Rena[1], *Yamada Shohei*[1], *Shirai Ryoichi*[1], *Sato Tomoki*[1], *Kaihara Ayaka*[1], *Urate Shingo*[1], *Yanagi Mai*[1], *Kinugasa Satoshi*[1], *Ishibashi Yoshitaka*[1]

[1]*Department of Nephrology, Japanese Red Cross Medical Center, Tokyo, Japan*

OBJECTIVES

Peritoneal dialysis (PD) catheter-related infection is a significant complication which is a major reason that causes catheter loss. The International Peritoneal Dialysis 2023 recommendation suggests the incidence of PD catheter insertion-related infection within 30 days should be less than 5%. In our center, we use a chlorhexidine gluconateimpregnated dressing (BioPatch®, Johnson and Johnson, Arlington , Tx, USA) for exit-site care during the postoperative period until the exit-site has fully epithelized. BioPatch® dressings, commonly used to prevent central venous catheter infections, maintain their antimicrobial effects for approximately one week. Existing literature on the use of BioPatch® dressings for preventing PD catheter insertion-related infections is limited. The aim of this study is to evaluate the effectiveness of BioPatch® dressings during the early postoperative period (within 30 days).

METHODS

We enrolled patients who initiated PD and utilized BioPatch® dressings, which were changed once a week, at our center from January 1, 2014, to May 31, 2023. We examined the incidence of PD catheter-related infections among patients who had started dialysis for 30 days after surgery.

RESULTS

During the study period, 163 patients initiated PD. 5 patients (one with allergy to BioPatch® and 4 with dialysate leakage) were switched to gauze dressings. The remaining 158 patients continued BioPatch® dressings for 30 days post-surgery. The study group consisted of 98 men and 60 women with a mean age of 67.6±14.8 years. No patients experienced PD catheter insertion-related infections within 30 days of PD catheter placement.

CONCLUSIONS

Our findings suggest that the use of BioPatch® dressings can reduce PD catheter insertion-related infections during the early postoperative period.

P-154 - Fungal Exit-Site Infection: Etiology, Treatment And Outcome

Marcos Piris Gonzalez[1], *Rosa Haridian Sosa Barrios*[1,2], *Miriam Domínguez Tejedor*[1], *Cristina Campillo Trapero*[1], *Fernando Caballero Cebrian*[1], *Irene Minguez Toral*[1], *Victor Burguera Vion*[1,2], *Milagros Fernández Lucas*[1,2,3], *Maite Rivera Gorrin*[1,2,3]

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OBJECTIVES

Fungal exit site infection (ESI) is a rare disease in peritoneal dialysis (PD) patients. Moreover, there are no clear recommendations on its treatment, even in the latest ISPD catheter-infections 2023 guidelines. The aim of our work was to analyse the outcome of fungal exit-site infection in our PD unit.

METHODS

The medical records of 11 patients with fungal ESI were retrospectively reviewed. Demographics, type of fungus, antifungal prescription, dosage, duration of treatment, catheter and patient outcome were recorded.

RESULTS

17 fungal ESI episodes were recorded. All patients were male, with a mean age of 64±12years and a mean PD duration of 35±27 months. 2 were diabetic and 1 had bilateral fingernail onychomycosis. *Candida Parapsilosis* grew in all except one which, was reported *as Levadura sp*. All ESI had received previous local antibiotics for bacterial ESI. Cultures of the exit site became negative in 15 (88%) after topical treatment with clotrimazole spray for a median of 40±65 days (16-267). 4 fungal ESI (25%) required additional oral fluconazole

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and 1 topical amphotericin eyedrops plus oral voriconazole to achieve a sterile exit site culture. Eventually, treatment success was 94%. One patient died 8 days after starting treatment due to other causes not PD related ESI. Four patients had more than one episode of fungal ESI in the course of treatment, which were also successfully treated.
Finally, no cases progressed to fungal peritonitis or tunnel infection. Thus, no PD catheter required removal and all patients could continue on PD.

CONCLUSIONS

FESI is a rare complication of PD that can successfully be treated with topical clotrimazole spray for about 6 weeks without recurrence or complication with peritonitis. The sole cause was *Candida parapsilosis*. In our experience, broad-spectrum topical antibiotics are the main risk factor for fungal ESI.

P-155 - Acute Peritonitis Due To Actinomyces Timonensis Regarding A Case

David Salcedo[1]

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SUMMARY

Peritonitis is one of the most frequent complications in peritoneal dialysis, which can be caused by a wide variety of microorganisms, but there are very few cases described by Actinomyces spp. We present a peritonitis due to Actinomyces Timonensis that we successfully treated with antibiotic therapy, without the need to remove the peritoneal dialysis catheter.

INTRODUCTION

This is a 66-year-old man with chronic kidney disease of unknown etiology, on an automated peritoneal dialysis program, who came to our unit due to mild and non-specific abdominal pain of two weeks duration, without fever or evidence of cloudy peritoneal effluent up to 24 hours before our valuation. Upon arrival, he presented a regular general condition, afebrile, blood pressure 140/90 fc 68 bpm. Distended and tender abdomen on deep palpation, with no evidence of exit-site infection.
The peritonitis protocol was started with determination of cell count and smear from the catheter exit orifice. Peritonitis was confirmed with 4706 leukocytes/microliter and 90% polymorphonuclear, so the first intraperitoneal dose of Vancomycin (2gr) and Ceftazidimazidime (0.5mg) was administered. It was decided to transfer to manual, continue treatment with intraperitoneal cephalosporin and review at 48 hours for a new count and assess antibiotic therapy. Given the persistence of abdominal pain, failure of ultrafiltration, with very positive balances and worsening of the cellularity of the fluid (increase in leukocytes up to 12,360 with 67% polymorphonuclear cells), hospital admission was decided due to advanced peritonitis requiring close monitoring. The second dose of Vancomycin is administered due to growth of *Staphylococcus Haemolyticus* in the first culture of peritoneal fluid extracted and ceftazidime is changed to oral levofloxacin.

On the second day of admission, we know the result of the second culture extracted, on this occasion, Actinomyces Timonensis is isolated. The exit site smear was sterile on both occasions. We performed a chest-abdominal CT, ruling out intra-abdominal and osteoarticular infectious processes. We started antibiotic therapy with Penicillin G, maintaining prophylactic vancomycin and fluconazole, as well as sealing the catheter with Taurolidine. During the following days, daily peritoneal fluid counts improved (leukocytes 273, polymorphonuclear 17%) and several cultures were repeatedly negative. Given the good evolution, a week after admission, it was decided to be discharged home, continuing oral amoxicillin and fluconazole (prophylaxis of fungal peritonitis, up to completing 1 month of treatment), in addition to sealing the catheter with taurolidine performed during the first 7 days in a regular manner. consecutively and then twice a week for a month. Subsequently, the patient was completely asymptomatic, with clear effluent and the control culture was negative, but the counts maintained 376 leukocytes and 17% polymorphonuclear cells, so it was decided to continue with 2 seals with taurolidine per week for another month, at that time. At that time, the PF cell count showed 46 leukocytes and 4% polymorphonuclear cells, so we considered the infection cured, ending the treatment.

DISCUSSION

Actinomyces is a slow-growing, branching, facultative strict anaerobic, filamentous, gram-positive bacillus. It is generally part of the endogenous flora of mucous membranes such as the oropharyngeal, gastrointestinal tract, and female genitalia. In many cases, they are related to infectious processes such as abscesses or other intra-abdominal complications that were ruled out in our patient. Automated peritoneal dialysis, due to lack of observation of the effluent, as well as the non-specific and indolent nature of the symptoms, delayed the diagnosis of peritonitis in our patient.

CONCLUSION

Actinomyces peritonitis is rare, with few cases described in the literature and therefore with little clinical evidence on adequate antibiotic therapy, dose, route and time of treatment, as well as recommendations on the removal or not of the catheter. In our case, the evolution was favorable and we chose to extend the antibiotic therapy for a total of 5 weeks and the sealants with Taurolidine for up to 8 weeks, which could have contributed to healing without the need to remove the peritoneal dialysis catheter. Ten months later, the patient continues in the APD program, on the kidney transplant waiting list.

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P-156 - Eight Cases Of Peritoneal Dialysis Catheter Tunnel Infection And Exit Site Infection Caused By Non-Tuberculous *Mycobacterium Tuberculosis* At Our Hospital

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OBJECTIVES

Peritoneal dialysis (PD) catheter-related infections caused by *non-tuberculous mycobacteria* (NTM) are a rare complication and there are no standard treatment recommendations.
Therefore, there are often difficult to treat and cause for discontinuation of PD. In this study, we reviewed the clinical course of PD catheter-related infections caused by NTM in our hospital.

METHODS

We evaluated eight patients with PD catheter-related infections caused by NTM treated in our hospital between June 2019 and September 2022. The demographic characteristics, microbiological and clinical outcomes were examined.

RESULTS

Of the 8 patients, 6 were males and 2 were females. The mean age was 75 years, and the mean PD vintage at the time of PD catheter-related infection was 36.7 months. The primary kidney diseases were diabetic nephropathy in 1 case, nephrosclerosis in 5 cases, and chronic glomerulonephritis in 2 cases. The majority of the cases were caused by *Mycobacterium abscessus* (37.5%) and *Mycobacterium fortuitum* (25%). All cases were treated with two sensitive antibiotics. Only one case was able to continue PD without catheter removal, but 3 cases received subcutaneous pathway diversion, and 4 cases required catheter removal. Of the 4 cases that received catheter removal, 2 cases were able to restart PD after catheter reinsertion, but 2 cases were forced to be transferred to hemodialysis.

CONCLUSIONS

Early diagnosis, appropriate antibiotics therapy, and timely surgical intervention of PD catheter-related infections caused by NTM might be a better strategy to continue PD.

P-157 - Unraveling the Enigma: An Insight into the Rare Dark Side of Fungal Peritonitis

Helena Vidal[1]

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Peritonitis, especially fungal peritonitis, is a common and concerning complication of peritoneal dialysis. *Exophiala dermatitidis* peritonitis has been rarely reported. Disseminated infections are often fatal, but early diagnosis and appropriate therapy lead to cure.

CASE PRESENTATION

29-year-old male, admitted in nephrology department with a 4-day history of abdominal pain and fever (37.7º C). He had a medical history of renal failure of unknown etiology and long-standing hypertension. He was on peritoneal dialysis since the age of 26 and infectious complications never been reported. Also no history of malnutrition, HIV infection or immunosuppressive therapy.
He denied vomiting, obstipation, diarrhea or cloudy effluent. Abdominal palpation revealed mild discomfort, but no peritoneal reaction. An abdominal ultrasound was performed, and the findings were suggestive of acute diverticulitis. He started metronidazole and ciprofloxacin. The dialysate cell counts on day 0 showed 467 cells/mm3 and then showed an increase on day 1 to 1028 cells/mm3 with predominance of mononuclear cells. Samples of peritoneal fluid were sent to the laboratory for cultural exams. Direct microscopic examination revealed black yeast.
Prompt action was taken with the initiation of oral fluconazole and removal of the Tenckhoff catheter, transitioning to hemodialysis. As the patient's condition worsened, Liposomal Amphotericin B therapy was added. On the 23rd day of hospitalization, the patient showed improvement and was discharged, continuing hemodialysis treatment. Exophiala dermatitidis was later identified using MALDI-TOF.

Fungal peritonitis is less common but carries a higher risk of morbidity and mortality than bacterial peritonitis. This case emphasizes the importance of considering fungal peritonitis even in the absence of typical risk factors. The combination of catheter removal and Liposomal Amphotericin B therapy proved to be the most effective treatment approach for fungal peritonitis in this instance.

P-158 - Association Between Exit-Site Microbial Colonization/Contamination And Catheter-Related Complications In Pd Patients

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OBJECTIVES

Catheter-related infectious complications in PD patients are associated with high morbidity and are the main cause of technique failure. Currently, there is no effective screening tool to identify the patients at risk of such complications. Furthermore, the data about the significance of catheter exit site colonization or contamination in asymptomatic PD patients is lacking. We aimed to investigate the association between ES colonization and contamination and catheter-related infections in PD patients.

METHODS

The study is a population-based retrospective cohort study. The study included 620 patients who received PD for more than 3 months and whose regular ES culture results were available in electronic records. To estimate the association of patient characteristics with the composite outcome of catheter-related infection, we have conducted a forward stepwise conditional logistic regression of the dependent variable. Multivariable mixed model logistic regression was conducted to predict the occurrence of multiple peritonitis episodes by the percentage of previous positive exit-site cultures.

RESULTS

Peritonitis rates were higher among the positive ES culture group with a proportion of 69.9% compared to 42.7% in the negative ES culture group (P<0.001). The multivariable model did not identify prior exit-site colonization of infection as a risk factor for multiple peritonitis episodes. Multiple peritonitis episodes resulted in a higher rate of technique failure and temporal or permanent removal of peritoneal dialysis catheter (31.9% compared with 22% in the control group, p=0.015). The outcome of death was similar between the groups.

CONCLUSIONS

Our study established a significant correlation between exit site colonization and the incidence of peritonitis among peritoneal dialysis patients. We didn't find a significant correlation between exit-site colonization or infection and the incidence of multiple episodes of peritonitis. Further research is required to deepen the understanding of the clinical relevance of asymptomatic ES colonization/ contamination in PD patients and to develop an effective screening tool for the risk of multiple peritonitis episodes.

P-159 - How Bad Are The Pd-Related Peritonitis In 2023?

Claudia Yuste[1], *Jose María Portoles, Jara Caro, Almudena Vega, María Jose Fernandez- Reyes, Antonio Fernández- Perpen, Belen Campos Gutierrez, Silvia Gonzalez- Sanchidrian, Paula López- Sanchidrian*

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OBJECTIVES

Peritonitis is traditionally cited as the primary cause of catheter loss and discontinuation of the peritoneal dialysis (DP) technique. Nevertheless, the incidence and severity of peritonitis has been significantly reduced over time. Therefore, we aimed to update the current impact of peritonitis in PD patients.

METHODS

We performed an observational, multi-centre, prospective study including 3,037 patients who started PD between 2003-2020 followed for a median of 1.6 [0.8-2.9] years.

RESULTS

We observed 2,941 episodes of peritonitis, with a peritonitis rate (PR) of 0.46 episodes per patient year and a mean of 2.6 years CI 95% [2.4-2.8] to first peritonitis episode. As expected, gram-positive organism was identified in the 69.3% of the cases, followed by gram-negative (19.6%) and sterile culture (15.6%). The usual outcome of the peritonitis was favourable, with complete recovery in the 76.4% of the cases, whereas just the 37.6% require admission, with a peritonitis recurrence of 11.2%. A fatal peritonitis (resulted in PD cessation) was observed in 11.7% of the patients with an overall mortality of 0.7% (considering all the deaths within the 90 days after peritonitis). Factors associated with a 90-days mortality rate related to PD rate were age > 65 years (OR 2.99 [1.84-4.85]), Charlson index (OR 1.19 [1.07-1.33]), and the type of microorganism: fungus (OR 9.8 [4.16-23.43], multi-bacterial (OR 7.97[0.91-69.88] and gram-negative OR (2.41 [1.45, 3.99]). PR has significantly decreased over three consecutive 5-year periods: from 0.51 [0.48-0.54] peritonitis cases per year during 2003-2008 to 0.45 [0.43-0.48] during 2009-2014 (p 0.03), and further dropping to 0.41 [0.38-0.44] for the period 2015-2020 (p<0.001).

CONCLUSIONS

Over the past 17 years, the incidence and severity of peritonitis have significantly reduced, despite PD patients becoming older and associated high comorbidities.

P-160 - The Impact Of CKD Status Before Kidney Transplantion On Alphatorquevirus DNA Levels.

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Claudia Yuste[1], *Celia Gonzalez- García, Paula Jara Caro, Amado Andres, Natalia Polanco, Mario Fernández- Ruiz*

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OBJECTIVES

Torque teno virus (TTV) is a non-pathogenic anellovirus whose replication kinetics reflects the overall state of immunosuppression. Although chronic kidney disease (CKD) induces a well-stabilised dysfunction of the immune system, long-term use of renal replacement therapies (RRT) itself could also modify the immune response.

METHODS

We analyzed TTV DNA loads at baseline (in the pre-transplant assessment), day 7 and months 1, 3,6 and 12 after kidney transplantation (KT). Recipients were categorized according to their RRT status: pre-emptive KT (pre-KT), hemodialysis (HD) and peritoneal dialysis (PD). TTV DNA load was measured by real-time polymerase chain reaction.

RESULTS

A total of 221 CKD patients were analyzed. The mean age was 53.9 ± 15.7 years, 72.4% were males, and hypertension (85.1%) and diabetes (30.1%) were the most common comorbidities. According to the pre-transplant TTR status, 159 (72.0%) were on HD, 35 (15.8%) on PD and 27 (12.2%) received pre-KT. There were no differences in baseline comorbidities or age between patients according to their RRT status, except for residual diuresis (P <0.01). HD patients had higher serum albumin levels than patients receiving pre-KT or PD (4.4 ± 0.5 vs. 4.1 ± 0.6 vs. 3.9 ± 0.4 g/dL, respectively, P <0.01). PD patients exhibited higher TTV DNA load (3.4 ±1.2 log10 copies/mL) than HD (2.8 ± 1.6 log10 copies/mL) or pre-KT patients (2.4 ± 2.1 log10 copies/mL), although the differences were not statistically significant. PD patients had lower time on dialysis than HD patients (18.4± 16.2 vs. 37.5± 53.6 months, respectively; P = 0.038). Although PD patients had higher TTV DNA load during the post-transplant follow-up than HD and pre-KT patients, viral kinetics were comparable across these three groups by month 12 after transplantation. Time on dialysis was not associated with TTV DNA load (P = 0.18). RRT status was not associated with the incidence of post-transplant infection or a composite of opportunistic infection and/or de novo malignancy.

CONCLUSIONS

TTV DNA load could be useful identifying KT recipients at high risk of immunosuppression-related complications. Although PD patients presented a non-significant higher TTV DNA load, we did not find differences according to the modality of prior RRT or the time on dialysis.

Theme Membrane Biology

P-161 - Cross-Omics Analysis Of Transcriptome, Proteome And Metabolome Dynamics During Pd

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OBJECTIVES

PD effluent (PDE) is a rich but underexplored source of markers for therapy monitoring and investigation of deregulated processes during PD. Modern high performance mass spectrometry (MS) and sequencing methods allow monitoring of hundreds of analytes in parallel. For understanding PD pathomechanisms and transport on a systems biology level, a multi-level omics approach is particularly attractive.

METHODS

Samples were obtained from stable patients at different time-points of 4h PETs. The effluent was separated into a cellular and cell-free component. Soluble proteins and metabolites in the cell-free compartment were processed using LC-MS workflows. The cellular material was subjected to RNA sequencing. The Plasma-Proteome database was used for referencing plasma proteins and estimating plasma concentration. A bioinformatic workflow conjoined information from the datasets to reveal novel insights into the “PD-effluentome”, especially unraveling the origin of proteins and metabolites in PDE.

RESULT

Metabolomics enabled detecting of 207 unique metabolites in cell-free PDE. A mixed-effect ANOVA of all metabolites demonstrated dwell time-dependent concentration changes in 173 metabolites. Post-hoc testing revealed most metabolites to be changed between 1h and 16h of dwell-time, followed by 114 and 46 differently concentrated metabolites between 4h and 16h and 1h and 4h, respectively. We quantified 9,797 transcripts in PD-effluent cells and 2,729 proteins in PDE. 342 proteins were filtered from plasma, while 800 proteins were attributable to local origin or production. A quantitative analysis of the interaction proteome and cellular transcripts of ~1700 protein-transcript pairs showed clusters of proteins explained by over-expression in peritoneal cells compared to plasma concentrations.

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CONCLUSIONS

Cross-omic profiling of PDE can to be a valuable approach for revealing small molecule related changes during PD. The exploitation of PDE on multiple levels could improve the understanding of pathophysiological molecular processes and transport dynamics in the peritoneal cavity and their role in development of PD complications.

P-162 - Senescent Human Peritoneal Mesothelial Cells Respond Differently To TGF-B1 Than Young Cells.

Edyta Kawka[1], *Rebecca Herzog*[2], *Marcin Ruciński*[3], *Markus Unterwurzacher*[2], *Juan Manuel Sacnun*[2], *Anja Wagner*[2], *Agata Kucz*[1], *Klaus Kratochwill*[2], *Janusz Witowski*[1]

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OBJECTIVES

In human peritoneal mesothelial cells (HPMCs) in vitro, transforming growth factor β1 (TGF-β1) is a recognized driver of both mesothelial-to-mesenchymal transition (MMT) and cellular senescence. However, it is not clear what determines which pathway is activated by TGF-β1. We have previously shown that senescent HPMCs spontaneously acquire some phenotypic features of MMT which in young HPMCs are induced by TGF-β1. At the same time, senescent HPMCs appeared to be less responsive to TGF-β. Here, we extend these observations by transcriptomic and proteomic analyses.

METHODS

Replicative senescence of omentum-derived HPMCs isolated from 4 separate donors was induced by serial passages until cells ceased to grow and expressed senescence-associated β-galactosidase. Serum-starved young and senescent cells were treated in parallel with 1 ng/mL of TGF-β1 for 72 hours. Cell lysates were analysed for global gene and protein expression using an integrated transcriptomic (Array-based) and proteomic (LC/MS-based) approach.

RESULT

Exposure to TGF-β1 led to phenotypic changes consistent with MMT in young, but not in senescent HPMCs. The omics analyses revealed that the response to TGF-β1 was associated with 89 genes being differentially expressed (55 down- and 34 up-upregulated) in young HPMCs and with 13 genes (5 down- and 8 up-regulated) in senescent HPMCs. In addition, TGF-β1 changed the expression of 131 proteins in young HPMCs (72 down- and 59 up-regulated) and 232 proteins in senescent HPMCs (127 down- and 105 up-regulated). The differences identified were related predominantly to wound healing, integrin-mediated signalling, production of proteases and extracellular matrix components, and cytoskeleton structure.

CONCLUSIONS

Senescent HPMCs are able to react to TGF-β1, however their response differs and is less pronounced compared to young cells. Thus, although senescent HPMCs display some myofibroblastic features, their contribution to TGF-β1-induced peritoneal remodelling may be different than that of young cells.

P-163 - Longitudinal Evolution Of Peritoneal Protein Loss During PD

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OBJECTIVES

Longitudinal changes in peritoneal protein loss (PPL), a reflection of hydrostatic pressure–driven leak of plasma proteins through the large-pore pathway, are not evident. Time on PD causes loss of mesothelial cells, vasculopathy and increased thickness of the submesothelial fibrous layer. Are these structural changes associated with progressive increase of PPL, in a parallel with the rise in the D/P creatinine? The aim of the present study was to identify longitudinal changes of peritoneal protein losses over time.

METHODS

This single center, longitudinal study included 52 peritoneal dialysis patients with a median follow-up of 26.5 months, investigated at two different time points with a minimum interval of 6 months. Repeated measures analysis was performed using paired sample t-test or the non-parametric Wilcoxon signed ranks test, depending on the distribution.

RESULT

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After a median interval of 15.5 months, lower levels of residual renal function and urine volume, lower Kt/V and creatinine clearance were found. D/P creatinine and PPL were stable, but a decrease in ultrafiltration was present. Systemic inflammation, nutrition and volume overload showed no significant change with time on PD. Analysis of a subpopulation with over 48 months between initial and subsequential assessment (n=11) showed again no difference in inflammation, nutritional and hydration parameters from baseline, but importantly PPL decreased after more than 4 years on PD (mean difference 1.2 g/24, p=0.033). D/P creatinine and %FWT remained unchanged.

CONCLUSIONS

The absence of deleterious effects of vintage on PD, is reassuring pointing to the benefit of updated PD prescription, including the standard use of more biocompatible solutions towards membrane preservation, and adjusted prescription avoiding overhydration and inflammation while maintaining nutritional status. After controlling for confounders, PPL may act as a biomarker of acquired venous

P-164 - Morphological Analysis Of Mesothelial Cells Exposed To Peritoneal Dialysis Solutions: Is It Time For New Osmotic Agents To Be Applied In The Daily PD Clinical Practice?

Valentina Masola[1], *Luciano D'Apolito*[2,3], *Angelo D'Alessandro*[4], *Marco Franchi*[5], *Mario Bonomini*[6], *Giovanbattista Capasso*[2,3], *Francesco Trepiccione*[2,3], *Maurizio Onisto*[1], *Tommaso Prosdocimi*[7], *José Carolino Divino-Filho*[8], *Arduino Arduini*[7]

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OBJECTIVES

Glucose continues to be the most frequently used osmotic agent in peritoneal dialysis (PD); however, it is inevitable that glucose contributes to the reduction of peritoneal filtration capacity over time. Continuous glucose contact with the peritoneal membrane during dialysis may lead to substantial morphological and functional changes in the peritoneum. In the present study, we investigate the morphological alteration of mesothelial cells exposed to both, a glucose-based PD solutions and a novel biocompatible PD solution (XyloCore) based on L-carnitine and Xylytol

METHODS

Mesothelial cells (Met5A) were seeded and cultured on a polyester filter (0.4-lm pore size; Transwell, 12 well type, Millipore), using complete medium. We evaluated glucose-based versus XyloCore PD solutions on cells grown on transwells and exposed to either PD solutions on the apical side and to culture medium on the basal side. Cells were used to perform proteomic and metabolomic analyses as well as being fixed and observed at scanning electron microscopy (SEM).

RESULT

Unsupervised hierarchical clustering analysis revealed distinct proteomic profiles between wild-type (WT) cells (control) and cells exposed to glucose-based PD solution or XyloCore. SEM analysis revealed that the control cells displayed a characteristic flat epithelial appearance. However, after subjecting the WT cells to a treatment with glucose-based PD solution, there were notable changes in cellular morphology. Specifically, the cells exhibited elongated shapes, loosening of cell-cell contacts and a consistent percentage of culture surface denuded whereas XyloCore preserved a better cellular morphology and reduced cell detachement.

CONCLUSIONS

The mesothelial barrier integrity is an indispensable condition for peritoneal ultrafiltration capacity. The present results indicate that glucose-based PD solutions induce early morphological alterations of cells shape and cell-cell contact, probably due to cytoskeleton or adhesion molecules alterations. New osmotic agents applied in clinical practice are of utmost importance for the future of PD

P-165 - Unveiling The Mechanisms Of Methylglyoxal-Induced Peritoneal Fibrosis

Yu-Syuan Wei[1], *Pei-Shiue Tsai*[2]

National Taiwan University

OBJECTIVES

Peritoneal fibrosis (PF) is one of the complications that happen in long-term peritoneal dialysis (PD) patients. PF can gradually progress into ultrafiltration failure and has a high correlation with encapsulating peritoneal sclerosis. Glucose degradation products (GDPs, i.e. methylglyoxal (MGO)) are considered the key to initiating PF. In this study, MGO was used to establish a novel PF porcine model to facilitate drug screening for future clinical use. Cellular and molecular mechanisms of MGO-induced PF were also investigated.

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METHODS

Forty mM MGO dissolved in 2.5% dialysate was given to pigs for 3 weeks via PD tubes. A peritoneal equilibration test was established and used to monitor the immediate changes in peritoneal function. Histological changes of the peritoneum and fibrosis-related proteins were also evaluated. To unveil the mechanism of MGO-induced PF, a mesothelial cell line (MeT5A) was cultured, treated with MGO, and subjected to next-generation sequencing (NGS) to observe transcriptomic alterations. Differential expression genes and pathway enrichment analysis were further analyzed.

RESULT

Significant thickening, loss of mesothelial cells, infiltration of myofibroblasts, and elevation of fibrosis-related proteins were detected, along with the functional changes in the peritoneum in MGO-treated pigs. NGS data indicated that genes involved in pathways of extracellular matrix organization, type I interferon signaling, wound healing, cell adhesion, and angiogenesis were significantly elevated after MGO treatment. Although epithelial-to-mesenchymal (EMT) was considered important in PF, genes that are related to EMT were not altered in this model. Moreover, except for TGFB1, proteins that are able to activate fibroblasts into myofibroblasts, such as IL1B, PDGFA, PDGFB, and PDGFD, were all upregulated significantly.

CONCLUSIONS

We showed MGO successfully induced PF in pigs within 3 weeks. Histological and functional features associated with PF were also detected. In vitro data indicated that mesothelial cells treated with MGO showed promoted pro-inflammation response and activation of fibroblasts, but not EMT.

Theme Membrane Function

P-166 - Evolution Of Serum ß2microglobulin Levels In Incident Peritoneal Dialysis Patients

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OBJECTIVES

Retention of ß2microglobulin (ß2M), an uremic toxin in the middle molecular range, has been associated with cardiovascular morbidity and mortality in dialysis patients. Although ß2M levels are usually measured in hemodialysis patients, this practice is not common among peritoneal dialysis (PD) patients. The aim of this study is to evaluate the evolution of serum ß2M levels in incident PD patients

METHODS

Prospective, observational study including incident PD patients in our hospital from January 2015 to October 2019. Patients with cardiorrenal syndrome or patients coming from hemodialysis were excluded. Serum ß2M levels were collected before starting PD and during follow up. Weekly KtV, residual renal function and cardiovascular events were also collected during follow up.

RESULTS

We included 30 patients with a mean age of 57 +/- 17 years. 56.3% were male and 15.6% were diabetic. Mean follow up was 19.8 +/- 16.9 months. 18 patients were on continous ambulatory PD and 12 in automated PD. Mean serum ß2M levels before starting PD were 12.8 +/- 6.6 mg/l and they remained stable during follow up (12.9 +/- 5.2 mg/l, 15 +/- 4.2 mg/l, 14.3 +/- 6.9 mg/l, 10.2+/- 4.5 mg/l at month 6, 12, 24 and 36, respectively; p NS). No differences in serum ß2M levels were observed between continous ambulatory PD and automated PD. Serum ß2M levels were inversely and significantly correlated with weekly KtV (r= -0.943; p 0.009) and residual renal function (r= -0.829; p 0.042). One cardiovascular event was recorded during follow up.

CONCLUSIONS

Serum ß2M levels remain stable during follow up in our cohort of incident PD patients and is significantly and inversely correlated with weekly KtV and residual renal function. Serum ß2M levels monitoring could be helpful in these patients and would yield important information in this population.

P-167 - CANCELLED

P-168 - Molecular And Functional Characterization Of The Peritoneal Mesothelium, A Major Barrier For Small Solute Transport

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OBJECTIVES

Peritoneal dialysis (PD) requires efficient solute transport which is mediated by paracellular and transcellular pores, channels and carriers. While endothelial and interstitial transport have been studied extensively, impact of mesothelial cells remains uncertain.

METHODS

To assess the molecular transport machinery in peritoneum, we studied polarized primary (HPMC) and immortalized human peritoneal mesothelial (MeT-5A), microvascular (HCMEC) and umbilical vein endothelial (HUVEC), calculated human peritoneal mesothelial (MSA) and capillary endothelial (BCESA) surface area in 100 tissue samples, and performed molecular transport-related gene profiling, single molecule localization microscopy, and molecular weight dependent transport studies in vitro and in mice.

RESULTS

The healthy human peritoneal MSA was age-dependently 40-70% lower than the BCESA, and remains preserved during initial two years on PD with double-chamber PD fluids. Junction, transmembrane and transcytotic transporters were highly cell-type specifically expressed, with sealing tight junction (TJ), claudin (CLDN)1 being only expressed in mesothelial cells (MC), CLDN5 in endothelial cells (EC). At nanoscale, TJ-anchoring protein Zonula occludens-1 was consistently expressed along the MC membrane, but less abundant and discontinuously present with lower clustering level compared to the EC membrane. Transepithelial electrical resistance (TER), is 3-fold higher across the MC, reflecting lower ionic conductance. Trans-MC time-dependent creatinine, 4- and 10-kDa dextran transport was slower than across the EC monolayer. Removal of the MC layer from sheep peritoneum abolished tissue TER. In mouse, short-term peritoneal lipopolysaccharide (LPS) exposure altered MC, morphology, but not peritoneal MC coverage and CLDN1 and 5 abundance and increased creatinine, 4 and 70 kDa solute uptake.

CONCLUSIONS

We provide comprehensive in vitro, ex vivo and in vivo studies on molecular expression patterns and transport functions of the peritoneal MC and capillary EC barrier. Our findings suggest a major barrier function of the mesothelium for molecular size-dependent, transperitoneal solute transport, requiring reconsideration of current transport models of PD.

P-169 - 2-Deoxy-Glucose (2-Dg) Addition Significantly Ameliorated The Mesothelial And Endothelial Barrier Function After Disruption By Exposure To Conventional Or Biocompatible Peritoneal Dialysis Fluids

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OBJECTIVES

Peritoneal Dialysis (PD) limited use could be partially explained by the PD fluids (PDF) bio-incompatibility, culprit for the induction of peritoneal membrane (PM) fibrosis and progressive functional deterioration. Recently, the inhibition of PDF-induced hyper-glycolysis by 2-deoxy-glucose (2-DG) administration has been promisingly shown to mitigate mesothelial-to-mesenchymal transition. We sought to assess whether this antifibrotic approach would also positively affect the PM permeability by testing 2-DG addition in PDF of different composition.

METHODS

We developed an in vitro co-culture model of mesothelial (MeT-5A) cells on the upper side of a Snapwell filter and endothelial (EA. hy926) cells on the bottom side, simulating the in vivo mesothelial and endothelial barriers. At cell confluence, filters were mounted in Ussing chambers followed by conventional (CPDF) or bicarbonate-buffered PDF (BPDF) with/without 2-DG (0.2 mM) introduction in the apical side as the clinically relevant one. Barrier function was evaluated by 4-hour monitoring of transmembrane resistance (RTM), 10kDa FITC-dextran diffusion, and expression levels of CLDN-1 to -5, ZO1, SGLT1, SGLT2 genes.

RESULTS

CPDF increased the RTM throughout the experimental time (t0h: 24.33±7.83, t1h: 29.00±8.00, t2h: 24.33±5.89, $p<0.001$; t3h: 21.00±5.50, $p<0.01$; t4h: 19.66±6.76, $p<0.05$) compared to control (9.66±4.54), in contrast to 2-DG addition that an increase was observed only up to 2 hours (t0h: 28.00±9.07, $p<0.001$; t1h: 23.33±4.91, t2h: 23.00±4.72, $p<0.01$). In BPDF with/without 2-DG, a similar effect was evident for 1 (BPDF/2-DG: t0h: 38.50±5.28, t1h: 34.16±5.52, $p<0.001$) or 2 hours (BPDF: t0h: 44.00±8.50, $p<0.001$; t1h: 35.33±7.88, $p<0.01$;

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t2h: 32.67±6.67, p<0.05), respectively. These findings were also reflected on the dextran flux (BPDF/2-DG: 1.23±0.01, p<0.001) and expression levels of the paracellular and transcellular components. Interestingly, though, 2-DG addition differently altered the studied genes depending on the PDF- and cell-type.

CONCLUSIONS

The 2-DG PDF supplementation indicated ameliorating effects relevant to PM permeability characteristics. Thus, 2-DG should be further explored in PD modality and lifetime improvement.

P-170 - Ultrafiltration In Pd. Intraperitoneal Pressure And Three-Pore Model

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OBJECTIVES

Peritoneal water transport occurs by intracellular water channels (ultrasmall pores called aquaporins) and by intercellular channels (small and large pores), influenced by osmotic and hydrostatic pressure. Intraperitoneal pressure (IPP) has been shown to counteract ultrafiltration as a whole. We aim to study if this effect occurs equal in patients with and without functional aquaporins.

METHODS

We studied 95 patients undergoing two 4h, 4.25%/3.86% glucose, peritoneal equilibration tests (PET) separated by 1 week, with 1L and 2L of intraperitoneal volume (IPV), respectively. IPP was measured. We divided patients by normal/malfunctional aquaporins (sodium sieving at 60 minutes in PET-2L (NaS) >/< 5 mEq/L) and we studied relationship between ultrafiltration and IPP.

RESULTS

95 patients were included, 68 men, 61±13 (25-89) years, vintage in PD of 16±19 (1-77) months. Mean IPP was 8.0±3.0 (0.75-15) cmH2O with empty abdomen, 10.44±3.13 (3-19) cmH2O with 1L of IPV and 12.32±3.58 (4.5-20.5) cmH2O with 2L. Ultrafiltration achieved was 462±249 (-200 – 1216) ml in PET-1L and 666±292 (-82 - 1575) ml in PET-2L (p<0.01). Sodium sieving was 4,57±2,36 (-2.1 – 10) mEq/L; in NaS<5 group it was 3.12±1.49 (-2.1 – 4.98) mEq/L and in NaS>5 group, 6.95±1.36 (5-10) mEq/L. In patients with NaS<5, ultrafiltration had a negative correlation with IPP (r=-0.273, p=0.037) in PET-2L, but not when decreasing IPV to 1L. The opposite situation was found with creatinine D/P and final dialysate glucose concentration, which correlated with ultrafiltration only in PET-1L (r=-0.281, p=0.031; r=0.259, p=0.047, respectively). In NaS>5 group, ultrafiltration correlated creatinine D/P (r= -0.357, p=0.033 in PET-2L; r= -0.496, p=0.002 in PET-1L) and final glucose concentration (r=0.450, p=0.006 in PET-2L; r=0.543, p=0.001 in PET-1L). No relationship between UF and IPP was found.

CONCLUSIONS

The effect of IPP counteracting UF is accentuated when there is aquaporin malfunction. In these patients, evaluating factors that influence IPP, such as IPV, become relevant when optimizing ultrafiltration.

P-171 - Impact Of Ultrafiltration On Small Solute Removal During Single Exchange With Extraneal Vs. Glucose-Based Solution: Mathematical Modeling

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OBJECTIVES

Peritoneal removal of small solutes (urea, creatinine) occurs mainly by diffusion leading to equilibration of their concentrations between blood and dialysate. Whereas diffusion of solutes depends on the membrane characteristics and patient transfer status, their removal is also related to intraperitoneal volume that changes depending on the solution used. We compared kinetics of small solutes removal with Extraneal and glucose-based solutions.

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METHODS

Three-pore model with icodextrin hydrolysis was applied for numerical simulations of single exchange with Extraneal and glucose-based solutions (1.36% G1 and 2.27% G2) in patients with slow (ST), average (AT) and fast (FT) transfer status. The peritoneal transfer of fluid and solutes (urea, creatinine) was analysed for dwells up to 16 hours and different transfer type (TT). The ratio of dialysate to plasma concentration (D/P) for solutes and their mass removed (ReMass) were calculated.

RESULTS

Fluid removal in Extraneal dwell remained similar for all TT with ultrafiltration (UF) increasing up to 16 hours, whereas for glucose-based solutions UF was related to TT. ReMass continuously increased with time in Extraneal dwells with differences between TT disappearing with dwell time. In glucose dwells, ReMass increased initially but then decreased due to lower UF. For FT and AT, the increase of ReMass was observed up to 4 and 6 hours for G1 and G2, respectively, being longer for ST (up to 6 and 10 hours, respectively). For shorter dwells, ReMass was higher with G2 than with Extraneal (up to 6, 8, and 10 hours for FT, AT, and ST, respectively) while for longer dwells, ReMass was higher with Extraneal for all TT.

CONCLUSIONS

Fluid removal with different solutions influences mass removed of small solutes being higher for glucose-based solution in case of shorter dwells, whereas Extraneal remains more efficient for longer dwells with similar removal for all transfer types.

Theme Paediatrics

P-172 - Choosing Peritoneal Dialysis: A "Complex" Pediatric Case

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OBJECTIVES

Peritoneal dialysis (PD) is a safe, simple and low expensive technique used worldwide in pediatric patients (AKI or ESRD), ranging from neonates to adolescents, before kidney transplantation. The choice of the best dialysis treatment for the ESRD child and his family must include not only clinical aspects, but also psychosocial and economic factors related to the treatment and the family.

METHODS

E.A.: romanian 14 yo- born prematurely by pre-eclampsia. Disturbed psycho-physical development: walking after 3 years, never acquired language, reduced vision with strabismus, severe psycho-motor agitation and Autism, regular height, but BMI 13; suspicion of Joubert's syndrome. Jan 2023: urgent hospitalization in Pediatric Unit for severe ESRD, hyperkalemia and metabolic acidosis, anemia, no dyspnea, PA 120/85, diuresis 1,5l. Urgent femoral CVC and start of hemodialysis, poorly tolerated for severe psychomotor agitation (mother always near him). Later *Pseudomonas Putida* and *Staphylococcus aureus Sepsys* , treated with piperacillin tazobactam and teicoplanin; necessary transfusion. Proposal for shift to peritoneal dialysis: hard to explain to his mother!

RESULT

Feb2023: placement of Di Paolo's peritoneal catheter and successful beginning of CAPD with small filling volumes. Mar2023 PC malfunction detection; partial resection of the greater omentum and adhesion lysis, implantation of a new PC; restoration of CAPD with increasing volumes; stop to HD and CVC removal; daytime APD with contextual training on the mother, difficult for language misunderstanding; need to search for a suitable home for his Romanian family. UF positive, preserved diuresis. May2023: PC tip dislodgment. New VL asleep surgery PC implant and contextual residual omentectomine. Regular post-operative course; early APD start (hyperkalaemia) at low volumes. UF always positive (400- 500ml) and diuresis 1.2l; good state of hydration, PA within the limits.

CONCLUSIONS

This case presented several management difficulties : autism and physical child defects beyond ESRD; mechanical complications; socio-economic integration problems of the Romanian family; multiprofessional team.

P-173 - What Can Be Learned From CKD-Related Statural Growth Failure And Uremic Toxicity?

Evelien Snauwaert[1], *Stefanie De Buyser*[2], *Wim Van Biesen*[1], *Ann Raes*[1], *Griet Glorieux*[2], *Laure Collard*[3], *Koen Van Hoeck*[4], *Maria Van Dyck*[5], *Nathalie Godefroid*[6], *Johan Vande Walle*[1], *Sunny Eloot*[2]

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OBJECTIVES

Statural growth failure is considered the most important clinical outcome parameter in childhood chronic kidney disease (CKD). Central in the pathophysiology of statural growth failure is the presence of a chronic pro-inflammatory state, presumed partly driven by the accumulation of toxic organic metabolites (also called "uremic toxins"). In this study, we assessed the association between uremic toxin accumulation and growth failure in childhood CKD in a longitudinal multicentric prospective pediatric CKD cohort.

METHODS

In a prospective, multicentric observational study, uremic toxin levels of children (0-18y) with CKD stage 1-5D were assessed every 3 months (max 2 years) along with clinical growth parameters. Linear regression models for growth velocity and final height, were fitted to investigate their association with uremic dimensions (derived from principle component analysis (PCA) on the log-transformed time-adjusted AUCs of the uremic toxins) and with time-adjusted AUCs of individual uremic toxins.

RESULT

Data-analysis from 559 visits of 81 children (median age 9.4 years; 2/3 male) demonstrated an inverse association between final height and first principle component (PC1; positively correlated with levels of creatinine, SDMA, β2microglobulin (β2m), Complement factor D (CfD), indoxyl sulfate (IxS), p-cresylsulfate, p-cresylglucuronide, indole acetic acid, and hippuric acid. Final height was especially inversely associated with the accumulation pattern of creatinine, β2m, CfD and IxS. With respect to growth velocity, no association with uremic toxins could be detected, while rGH therapy was consistently associated with improved growth velocity.

CONCLUSIONS

The present study demonstrates an inverse relation between final height and uremic toxins.

Addendum *(modifed and moved abstract):*

P-121 - Mild thrombocytopenia associated with Nxstage® HDD treatment : A report of 2 cases and retrospective analysis from 4 Belgian dialysis centers

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OBJECTIFS

To report our experience with the occurrence of mild thrombocytopenia with NxStage System One, the efficacy of the "flush and dump" technique in normalizing the BP count and to retrospectively estimate the risk of occurrence of this complication in a sample of Belgian HHD patients.

MÉTHODES

We studied 4 local patients where the flush and dump technique was implemented after they experienced thrombocytopenia (BP < $150x10^3/\mu l$) linked to NxStage. Retrospective data from 37 patients who started with NxStage between 2012 and 2023 from 4 Belgian dialysis centers were also analyzed. We recorded their characteristics (age, gender, date of beginning of NxStage therapy) and BP count at four times from before the start up to two months.

RÉSULTATS

We report 2 cases where thrombocytopenia occurred after the start of NxStage. After we excluded all usual causes of thrombocytopenia and reviewed the literature suggesting a possible association with the bioincompatibility and sterilization method of the NxStage dialyzers, we followed the "flush and dump" technique. In both patients, BP count normalized rapidly. We further started the same technique with 2 new thrombocytopenic patients who started more recently with the same success. Our retrospective analysis of the 37 patients showed a mean BP drop of 24,7% after the start of NxStage. We observed three patterns : BP count drop < 25% (n = 16), BP count drop > 25% with spontaneous recovery within 2 months (n = 11) and BP count drop > 25% without spontaneous recovery (n = 10). In those last 10 patients, the BP drop at two months was 39%.

CONCLUSIONS

58% of the patients on NxStage experience a fall in BP count of more than 25% after the start, half of those patients experiencing a spontaneous recovery. There were no difference in basic characteristics between groups of patients. Advanced characteristics were not available for analysis, leaving confounding factors influencing BP count out of our report. When implementing an additional flushing of the filter and the tubing with the "flush and dump" technique, BP count rapidly normalized in 4 patients. Further analysis are needed to identify the mechanisms and the underlying cause of the thrombocytopenia. Although our patients didn't experience life threatening levels of thrombocytopenia, sharing our experience and the effectiveness of the "flush and dump" technique might be useful for future

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similar cases.

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