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EPIDEMIOLOGY CKD 5D - A

SP580 PERIODONTAL DISEASE AND ALL CAUSE AND CARDIOVASCULAR MORTALITY IN HEMODIALYSIS PATIENTS: A PROSPECTIVE MULTINATIONAL COHORT STUDY

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Introduction and Aims: In the general population, periodontal disease is associated with increased cardiovascular mortality. We have evaluated the association between periodontitis and all-cause and cardiovascular mortality in adults on hemodialysis.
Methods: ORAL-D is an ongoing multinational prospective cohort study of consecutive adults receiving hemodialysis in 75 outpatient clinics selected randomly from a collaborative dialysis network in Italy, Hungary, Poland, Argentina, Portugal, France and Spain. A dental surgeon evaluated presence of periodontitis with standard methods, defined as a Community Periodontal Index (CPI) score ≥3 during a standardized oral examination. We assessed survival at 12 months using centralized mortality data. We conducted analysis with Cox regression controlling for age, gender, previous cardiovascular event, income status, clinical performance measures, dialysis prescription and performance indicators and depressive symptoms.
Results: 3672 dentate hemodialysis patients in the participating clinics received a complete evaluation for periodontitis and completed follow up. Median follow up was 19.9 (17.0 to 28.0) months. 1516 patients (42%) had periodontitis and 339 (10%) died during follow up. Periodontitis had uncertain associations with risks of all-cause (HR 0.86 [95% CI 0.68-1.10]) or cardiovascular (HR 0.85 [95% CI 0.63-1.15]) mortality.
Conclusions: Contrary to data in the general population, periodontitis has uncertain associations with all-cause or cardiovascular mortality in patients on hemodialysis. ORALD will be completed by end of 2013.

SP581 THIRST AND ORAL SYMPTOMS IN PEOPLE ON HEMODIALYSIS: A MULTINATIONAL PROSPECTIVE COHORT STUDY (ORAL-D)

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Introduction and Aims: Thirst and xerostomia, the subjective complaint of dry mouth, may be increased in people on hemodialysis due to reduced salivary and lacrimal secretion, intravascular volume changes, fluid-restriction, endocrine hormone abnormalities, and medication use. Existing data for the prevalence of thirst and xerostomia are limited. We evaluated the prevalence of thirst and oral symptoms in adults on hemodialysis.
Methods: ORAL-D is a multinational cohort study of oral diseases in consecutive adults on hemodialysis in 75 outpatient clinics selected randomly from a collaborative dialysis network in Europe and South America. We administered xerostomia and thirst inventories based upon validated methodology. We analyzed prevalence data using descriptive analyses.
Results: 4720 hemodialysis patients in the participating clinics completed a self-administered questionnaire on oral symptoms. 1773 (38%) patients reported occasional use of candies for dry mouth sensation, 1095 (34%) had difficulties swallowing and 2437 (53%) needed to sip to aid swallowing. 2112 (45%) reported waking up during the night to drink, 1700 (36%) reported dry mouth sensation and 2309 (50%) had dry lips. The mean xerostomia inventory score was 21.14 (SD 5.56). Thirst was a reported problem for 2895 (62%) patients; 3585 (78%) were thirsty during the day and 2173 (47%) during the night. Overall, 1169 (26%) patients reported that thirst influenced their social life. The mean dialysis thirst inventory score was 17.64 (SD 5.41).
Conclusions: Oral symptoms are highly prevalent in hemodialysis, with marked interference with daily life. Additional study of the predictors of thirst and xerostomia are now needed.

SP582 ECO-FRIENDLY DIALYSIS WITH THE SYSTEMIC DESIGN METHODOLOGY: AN ECO-FRIENDLY DIALYSIS MAY START FOR "THE GRAVE"

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Introduction and Aims: Dialysis produces about 600,000 tons of plastic wastes per year. The Systemic Design is one of the most innovative method to analyse the environmental impact of hardware and supplies production, from "Cradle-to-grave". In medicine, attention to the environmental impact is still limited.
Methods: The pathway of the dialysis disposables was followed since their arrival to the hospital, and potential interventions were identified by a small working group made of nephrologists, trainees, students and nurses, starting from the analysis of the wastes (the grave).
Results: Each hemodialysis session produced 1.5-2 kg of plastic wastes (cost of disposal: 2.2-3 Euros per session, about 10% of the cost of the dialysis supplies); the cost for packaging discharge is not included. 1. External packaging: large amount of boxes (non-recycled cardboard), wrapped in plastic. Suggestion: non-disposable plastic coverage, reusable, for delivery. Cardboard boxes should be reused and reusable; the reuse of the same cardboard boxes for dialysis supplies should be considered. 2. Each box contains at least 2 A4 pages of "instructions". Suggestions: use of recycled, non acid paper and ink; supply a reference site for instructions. 3. Packaging. There are two main philosophies of packaging: each element individually and "pre-assembled" packaging, in which a plastic "guide" helps mounting the dialysis machine. The latter are conceptually based upon the principle that time is more costly than wastes. Suggestion: consider compact packaging of single elements. 4.Dialysis companies supply pre-assembled "kits" for start and end of the dialysis sessions, which (suggestion) could be at least partly substituted with recycled/recyclable or reusable materials. 5. For disposables contaminated by blood, consider optimal geometry of waste bins: even where wastes are disposed by weight, the volume is crucial in determining transportation fees from hospitals to incinerators. 6. Reuse of dialysis filters for a limited time should be weighted against risks of infection, of loss of efficiency and of contamination by disinfectants.
Conclusions: The Systemic Design method may be a useful tool for defining single steps of "production" of a dialysis session, suggesting potential strategies. The approach "cradle to cradle" may be a starting point for a critical analysis, opening to further, more innovative steps, such as the "output>input" approach, learning from nature how to create and renovate "systems".

SP583 IMPACT OF POTENTIAL CONFOUNDERS ON COMPARISONS BETWEEN UNITED STATES FOR-PROFIT AND NONPROFIT DIALYSIS PROVIDERS

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Introduction and Aims: In its ongoing surveillance of clinical outcomes for dialysis patients by provider type as described in the Annual Dialysis Report (ADR 2012), the United States Renal Data System (USRDS) adjusts estimates for age, gender, race, primary diagnosis, and vintage. Previous literature has shown that both predialysis care and having a fistula at the time of dialysis initiation, both of which are outside the control of dialysis provider organizations, have a beneficial impact on mortality and hospitalization rates. The purpose of this study was to assess the degree to which these factors differed across provider types, which if present, could substantively confound existing estimates.
Methods: Because data on initial vascular access time and length of predialysis care are recorded on CMS form 2728, and the data on Medicare patients are aggregated to the facility level in Dialysis Facility Reports (DFR), we used DFR to evaluate the effect of type of facility ownership on both fistula placement and predialysis care in patients starting dialysis in for-profit compared to nonprofit dialysis facilities. Using United States federal claims data and the Dialysis Facility Reports (DFRs) from 2011 (reflecting ownership status in 2010), we determined the length of time that predialysis care was received before starting dialysis and the percentage of incident patients who started dialysis with an arteriovenous fistula (AVF) in place.

Results: In nonprofit facilities, 30% of patients who initiated dialysis did so after receiving greater than 12 months of predialysis care, compared to only 25% of patients who started dialysis at for-profit facilities. In nonprofit facilities, 19.6% of patients initiated dialysis with an AVF in place, compared to only 17.1% of those who entered dialysis in for-profit facilities.
Conclusions: Previous comparisons of outcomes between nonprofit and for-profit providers, including those in the most recent USRDS ADR, have not adjusted for predialysis care and vascular access placement. Since predialysis care and vascular access placement are important determinants of clinical outcomes in patients who start dialysis, our finding that patients who start dialysis at nonprofit facilities are more likely to have had prolonged predialysis care and initiate dialysis with an AVF in place than do those at for-profit facilities calls into question the reliability of previous reports comparing patient mortality by type of provider ownership. In the most recent USRDS ADR, the leading nonprofit provider (Dialysis Clinic, Inc; ie, DCI) and a for-profit provider (DaVita) showed standardized mortality ratios that were statistically equivalent. Further exploration of the impact of length of predialysis care and vascular access placement may provide greater insight into provider-level quality of care comparisons.

SP584 HEALTH BELIEFS RELATED TO SALT-RESTRICTED DIET IN A SAMPLE OF TURKISH PATIENTS ON HAEMODIALYSIS

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Introduction and Aims: Excessive salt intake increases cardiovascular morbidity and mortality risk in patients on haemodialysis (HD). Nonadherence with diet is related to individuals' health beliefs about their diet. There are no studies examining beliefs about diet among Turkish patients on HD. The aim of this study was to investigate health beliefs related to salt-restricted diet and determine the relationships between beliefs and demographic/disease-related variables and diet and fluid nonadherence. We also evaluated the psychometric properties of the Beliefs about Dietary Compliance Scale (BDCS) for assessing the beliefs related to salt-restricted diet in patients.
Methods: A cross-sectional, methodological design was used. One hundred fifty-eight patients who were followed in two HD centres in Ankara, Turkey were enrolled in this study. The inclusion criteria were age 18 years or older, on maintenance HD for at least three months and thrice weekly for 4- h, able to communicate in Turkish, and accept to participate of the study. Exclusion criteria included patients who had cognitive impairment, major psychiatric disorder, comorbid terminal illness and those who were clinically unstable. The study group consisted of 140 patients (participate rate=88.6%). Data were collected through face-to-face structured interviews. The participants completed a questionnaire form, the BDCS and the Dialysis Diet and Fluid Restrictions Nonadherence Questionnaire (DDFQ). Descriptive statistics, the one-sample Kolmogorov-Smirnov test, Mann-Whitney U test, correlation coefficients and psychometric tests (validity and reliability analyses) were used for the analysis of data. P values less than 0.05 were considered to be statistically significant.
Results: The mean age of the study group was 53.1±15.2 years (range=18-83) and the median time on HD was 51 months (range=3-362). The BDCS had acceptable internal consistency (Cronbach's alpha coefficient=0.66-0.91). The mean perceived benefits score was 28.0±4.0 (item mean 4.0; range=15-35). The mean perceived barriers score was 12.9 ± 3.6 (item mean 2.6; range=5-22). Patients who had a caregiver had significantly higher perceived benefits (z=-2.461; p=0.014) and lower perceived barriers scores (z=-2.317; p=0.021) than those who had no caregiver . The perceived barriers were negatively correlated with age (r=-0.17; p=0.045). The perceived benefits were significantly negatively correlated with the DDFQ subscale scores (p<0.05). The perceived barriers were also significantly and positively correlated with the DDFQ subscale scores (p<0.05).
Conclusions: This study demonstrated that the Turkish version of the BDCS is a valid and reliable instrument for assessing the beliefs related to salt-restricted diet in patients on HD. Perceived benefits being higher than the barriers in the participants indicated that the motivation and likelihood of beginning the adherence behaviour is high. Patients who perceived more benefits and less barriers showed better adherence with diet and fluid restrictions. Healthcare professionals must carry out tailored interventions after determining patients' beliefs about diet and the influencing factors.

SP585 FLUID INTAKE, MORTALITY AND KIDNEY FUNCTION: A COHORT STUDY

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Introduction and Aims: Drinking eight glasses of water each day to improve health is a widely-held belief. Observational data exploring the association between fluid intake and mortality or kidney disease are sparse and conflicting. We examined these associations.
Methods: We examined adults aged ≥49 years in a census population in Sydney, Australia. Daily fluid intake was measured using a self-administered food frequency questionnaire and mortaity was adjudicated using the National Death Index. Cox proportional hazard models were used to assess the relationship between all-cause and cardiovascular mortality and daily fluid consumption controlling for age, gender, smoking, prior myocardial infarction, cancer or cerebrovascular disease, employment, glucose, HDL, cholesterol, triglyceride, platelet, white cell count and fibrinogen. We also evaluated the association between daily fluid intake and change in estimated glomerular filtration rate (eGFR) during follow up.
Results: Data were available for 3858 individuals (age 66.2±9.8 years; eGFR 66.9 [17.6] ml/min/1.73 m^2) with a total follow up of 43,093 years at risk (median 13.1 years). Daily fluid intake was not associated with risk of death from any cause (adjusted hazard ratio 0.99, 95% confidence interval 0.98 to 1.01) per 250 millilitre increase or death attributable to vascular causes (adjusted hazard ratio 0.98, 95% confidence interval 0.95 to 1.01) per 250 millilitre increase). In 1207 of 3858 (42%) individuals who had complete follow-up data for kidney function, fluid intake was not associated with change in estimated glomerular filtration rate when controlled for key demographic and clinical variables (adjusted regression coefficient for fluid intake, 0.06 [95% confidence interval -0.03 to 0.14]).
Conclusions: In the general population, daily fluid intake is not associated with kidney function or total or cardiovascular mortality.

SP586 FACTORS INFLUENCING REGIONAL DIFFERENCES IN THE SURVIVAL OF INCIDENT DIALYSIS PATIENTS

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Introduction and Aims: There are regional differences in the survival of incident dialysis patients, but few studies have investigated the reasons. Therefore we evaluated which regional clinical factors might affect survival of incident dialysis patients with use of Japanese Renal Data Registry data for entire dialysis population in Japan.
Methods: We investigated 37 clinical factors from the perspective of its relation to survival stratified by gender for patients from 47 prefectures in Japan using the Japanese Society for Dialysis Therapy database (JRDR-09105) which registered 102,011 patients who were introduced chronic dialysis therapy during 2004-06. We also investigated 20 institutional factors from the database from 3,958 institutions of the 47 prefectures in 2005. Univariate survival analyses were performed by Kaplan-Meier analysis and log-rank test. The observation period was 1 year after starting chronic dialysis. The factors which can potentially have effects on survival were also tested by Cox's proportional-hazards model. The prefectures which patients live in are divided into 2 categories for each clinical factor; prefecture with either upper or lower values. The variable for the categories was dichotomized and was subjected to the Cox's model for each patient as well as age and primary diagnoses.
Results: The age-adjusted 1-year survival rate was 0.832±0.027. A total of 11 factors were significantly correlated with 1-year survival according to the Kaplan-Meier analysis and log-rank test. Deaths occurred 15.0% in 24 upper survival prefectures and 18.7% in 23 lower survival prefectures (*P<0.0001*, unadjusted HR of death in lower survival prefectures: 1.26, 95% CI: 1.17-1.40). 10 factors [protein catabolic rate (males: *P=0.0003,* age, genders, and presence of diabetes adjusted HR: 0.89, 95% CI: 0.82-0.94), creatinine production rate (males: *P<0.0001,* 0.88, 0.81-0.94), Kt/V (males: *P<0.0001,* 0.86, 0.78-0.91), dialysis time (males: *P<0.0001,* 0.87, 0.79-0.92), fluid removal (males: *P=0.0024,* 0.91, 0.84-0.96), Japan Ministry of Welfare clinical score at initiation of dialysis (males: *P<0.0001,* 1.13, 1.06-1.19), nighttime centers/total dialysis centers ratio (males: *P<0.0001,* 0.88, 0.81-0.93), number of full-time dialysis nurses (males: *P=0.0427,* 0.94, 0.87-1.00), number of full-time dialysis dieticians (males: *P=0.0084,* 0.92, 0.85-0.98) , and blood urea nitrogen after dialysis (males: *P=0.0022,* 1.11, 1.04-1.17, females: *P=0.0032,* 1.13, 1.04-1.20), respectively] were significant by the Cox's model.
Conclusions: Various institutional factors in addition to the clinical factors were closely related to the survival of incident dialysis patients, and regional differences in the survival may be explained, at least partly, by these factors.

SP587 LONGER DURATION OF PRE-DIALYSIS NEPHROLOGY CARE IMPROVES BOTH SHORT-TERM AND LONG-TERM SURVIVAL IN DIABETIC DIALYSIS PATIENTS

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Introduction and Aims: Both early and late mortality is extremelly high on dialysis. We investigated to which extent the duration of pre-dialysis nephrological care (PDNC) influences the short- and long-term survival of diabetic dialysis patients (DP).
Methods: We performed an analysis of the Moscow City Nephrology Registry with inclusion of 826 incident DP with type 1 (DM1) and 791 DP with type 2 (DM2) diabetes mellitus started dialysis treatment (both hemo- and peritoneal

dialysis) between 1/1/1995 and 31/12/2011. Median duration of follow-up was 1.1 yars (IQR 0.3-2.6). Age at dialysis initiation was 36.6±11.4 years for DM1 and 62.2±9.1 for DM2, males accounted for 48.6% and 45.5%, respectively. We defined 2 groups of patients based on the duration of PDNC measured from the first visit to nephrologist in Moscow to the start of dialysis: early (PDNC ≥1 year) and late (PDNC <1 year).
Results: Only 28.2% of DM1 patients and 25.2% of DM2 patients had longer than 1 year history of pre-dialysis nephrological care. Survaval was substantially higher in DP with early than in late PDNC (table). These results confirmed in multivariable Cox regression model with inclusion of age, sex, year of dialysis initiation, and dialysis modality. In comparisson with early PDNC relative risk of death in group of patients with late PDNC was 1.32 (95%CI 1.01-1.73, p<0.05) in DM1 patients and 1.44 (95% CI 1.13-1.83, p<0.005) in DM2 patients. Table. Patient survival on dialysis according the duration of pre-dialysis nephrology care and diabetes type. The proportion of patients in the group of early PDNC increased for DM1 patients from 15.3% for the period 1995-2000 yrs to 31.5% in 2001-2006 and 39.5% in 2007-2011 yrs, as well as for the DM2 patients - 13.2%, 24.1% and 29.6%, respectively.
Conclusions: Early pre-dialysis nephrology care is a significant factor for improving survival on dialysis patients with both diabetes mellitus type 1 and type 2. The beneficial trend for raising the proportion of patients with early PDNC during 1995-2011 yrs could be attributed to increasing the number of outpatient nephrologists in Moscow in this period. Moreover, we could expect that further enhansement of outpatient nephrology service in parallel with improving cooperation with endocrinology service will lead to increasing early referral and better predialysis care for diabetic patients, as well as to the better survival of dialysis patients.

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Group	Survival in DM type 1, %		Survival in DM type 2, %	
	1-year	5-year	1-year	5-year
Early PDNC (≥ 1 year prior to dialysis)	80.3	48.5	73.3	30.9
Late PDNC (<1 year prior to dialysis)	71.0*	36.5*	62.0*	23.0*

*p <0.05 in comparison with early PDNC group

SP588 EMERGING FACE OF END-STAGE RENAL DISEASE REQUIRING RENAL REPLACEMENT THERAPY IN TURKEY BETWEEN 2000-2011

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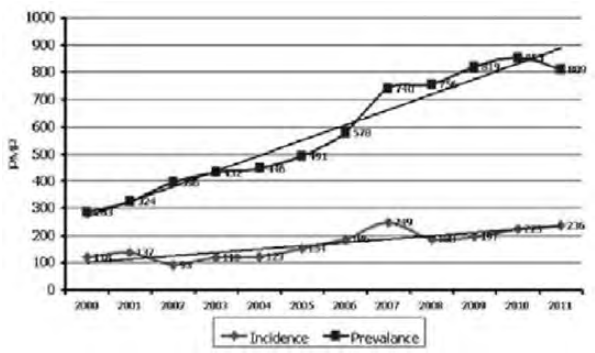
Introduction and Aims: The incidence and prevalence of renal replacement therapy (RRT) for patients with end-stage renal disease (ESRD) have been increasing gradually in the world during the past decades. Here we report the emerging face and updated status of RRT for ESRD in Turkey based on the national registry data over the last 12 years.
Methods: Since 1990 the Turkish Society of Nephrology has been carrying out the national renal registry with its own resources. The registry has collected nationwide centre based data on dialysis and transplant patients from all Turkish centres treating such patients. Point prevalence and incidence of RRT, RRT modalities, demographic and clinical characteristics of patients on RRT over the last 12 years.
Results: The number of centres increased from 2000 to 2011 on a national scale (333 centres to 1009 centres). The incidence and prevalence of RRT patients were increased over last 12 years (an increase of 14-15%, especially between years 2000-2007) as shown the following figure. The numbers of prevalent hemodialysis patients and peritoneal dialysis patients increased approximately 4-fold, 3-fold respectively. Numbers of kidney transplantion performed each year also increased from 523 to 2955 (>5-fold increase). In 2011, the point prevalence of RRT was 809 pmp and the incidence was 236 pmp (both including pediatric patients). In prevalent patients the most common RRT modality was haemodialysis (81,7% of patients) followed by peritoneal dialysis (7,3%) and transplantation (11%). Over the period the mean age of dialysis and transplantation patients increased; there was a predominance of male patients. The percentage of diabetes mellitus (2,4-fold increase) and hypertension (1,8-fold increase) as causes of ESRD in both incident and prevalent cases increased, while that of chronic glomerulonephritis and urologic disease decreased. The number of infections as well as the crude death rates decreased in all treatment modalities.
Conclusions: Our results suggest that the incidence and prevalance rates of ESRD increased significantly in Turkey over the last 12 years, and the need for RRT has been better met with increasing numbers of dialysis centres and the improvement of facilities.



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SP589 ONCE INFECTION AFTER PNEUMOCOCCAL PNEUMONIAE INCREASES SUBSEQUENT RISK OF END-STAGE RENAL DISEASE IN ADULT PATIENTS

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Introduction and Aims: The aim of our study is to find out the relation between Pneumococcal pneumonia (PP) and its subsequent risk for end stage renal disease (ESRD).
Methods: From the cohort including 23.5 million people in 1998-2010, 18,302 cases diagnosed to have PP infection upon admission were selected . For comparison, 73,208 individuals without PP matched with age and sex were selected as controls. Both study cohorts were followed until a new diagnosis of end-stage renal disease (ESRD), being censored, death or the end of follow-up on December, 31 2010. The demographic characteristics, incidence and hazard ratios of developing ESRD between two cohorts were compared.
Results: The PP cohort was more prevalent in comorbidity than the non-PP cohort including hypertension (32.6% vs. 16.3%), diabetes (20.0% vs. 8.10%), and hyperlipidemia (6.70% vs. 3.24%). The IRR of ESRD in the PP cohort was 2.82 times (95% CI, 2.70-2.95) higher than that in the non-PP cohort (42.8 vs. 15.0 per 10,000 person-years). Generally, the incidence rate of ESRD increased with age in both cohorts. However, the PP cohort less than 35 years of age had a much greater IRR of 10.7 (95% CI = 8.81-13.0). After adjusted for stratified age, sex, and comorbidities, the HR of the PP cohort was 2.03 (95% CI, 1.75-2.34, p<0.001). The risks of developing ESRD were also greater for patients with diabetes (HRs=2.52, 95% CI=4.71-6.48. The ESRD cumulative incidence curve showed that the PP cohort had a significantly higher risk for ESRD than the non-PP cohort (log-rank test <0.001).
Conclusions: Pneumococcal pneumonia is independent risk factor of renal function progression in adult patients, and the pathophysiologic mechanism could be multifactorial. The concurrence of Pneumococcal pneumonia and comorbid disease would aggravate the risk of ESRD in elderly population. Long-term follow up of renal function is recommended in adult patients despite only one episode of Pneumococcal pneumonia.

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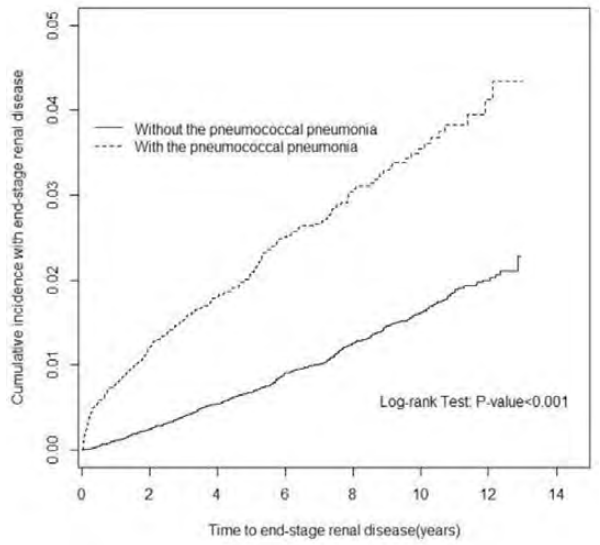
Variable	Crude HR (95%CI)	Adjusted HR (95% CI)
Stratified age		
20-35	1 (Reference)	1 (Reference)
35-50	3.39 (1.77, 6.48)	3.14 (1.64, 6.01)
50-65	8.81 (4.80, 16.2)	6.22 (3.38, 11.4)
65-75	10.7 (5.83, 19.5)	6.35 (3.46, 11.7)
75+	11.8 (6.48, 21.5)	6.79 (3.70, 12.5)
Sex (F vs. M)	0.97 (0.85, 1.11)	-
Pneumococcal Pneumonia	2.79 (2.43, 3.21)	2.03 (1.75, 2.34)
Hypertension	5.19 (4.54, 5.95)	1.86 (1.58, 2.20)
Diabetes	10.6 (9.22, 12.1)	5.52 (4.71, 6.48)
Hyperlipidemia	4.45 (3.61, 5.50)	1.28 (1.02, 1.60)
CAD	3.43 (2.90, 4.05)	1.10 (0.91, 1.32)



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SP590 ORAL HYGIENE HABITS IN PEOPLE ON HEMODIALYSIS: A MULTINATIONAL PROSPECTIVE COHORT STUDY (ORAL-D)

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Introduction and Aims: Data describing oral hygiene habits in people with end end-stage kidney disease on hemodialysis as sparse. We prospectively surveyed global oral hygiene habits in a large outpatient hemodialysis population.
Methods: ORAL-Dis an ongoing multinational prospective cohort study of oral diseases in people on hemodialysis. We consecutively enrolled adults on hemodialysis in 75 outpatient clinics selected randomly from a collaborative dialysis network in Europe and South America. We assessed oral hygiene habits using standard self-administered patient questionnaires. We summarized data using descriptive statistics.
Results: 4720 hemodialysis patients in the participating clinics from Italy, Hungary, Poland, Argentina, Portugal, France and Spain responded to the questionnaire. Of these, 2388 (52%) did not remember when they had last visited a dentist or reported they did not have a regular dental practitioner. 1264 (27%) reported their first dental visit at 30 years or older, 533 (12%) never brushed their teeth, 1722 (37%) used mouthwash and only 327 (7%) used dental floss. 1510 (33%) participants changed their toothbrush as needed, and only 1492 (35%) spent more than 2 minutes on daily oral hygiene cares.
Conclusions: Using validated instruments to evaluate oral hygiene, nearly half of adults on hemodialysis do not regularly visit a dental practitioner and many have poor oral hygiene habits. Additional study of the effectiveness of dental intervention and education on dental and clinical outcomes may be warranted.

SP591 CLINICAL ANALYSIS OF THE LARGEST NUMBER OF PREGNANT WOMEN IN HD & THEIR CHILDREN IN ARGENTINA

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Introduction and Aims: Although uncommon, pregnancy (P) occurs in women with end stage renal disease (ESRD) even in those undergoing dialysis (HD). The objective of this study was to report the experience in a multidisciplinary team for pregnant women suffering from (ESRD) patients (Pts) in a Public Hospital. Clinical outcome during pregnancy, long term follow up, as well as, perinatal and childhood outcomes are described.
Methods: Transversal study, including 37 non diabetic ESRD patients, that required HD and their offspring`s outcome.
Results: 39 P (3 twin, and 1 triple) in 37 ESRD pts, age (mean ± SEM) 30 ± 1.0 were followed up. 26/37 pts were already undergoing HD at the time of gestation while 11 entered HD because of P between 10 ± 6.7 weeks. 22 Hypertensive Pts. received amlodipine with or without α methyldopa/ labetalol.7/22 worsened needing more than 2 drugs to controll HTN. Polyhydramnios was found in 16 Pts. Preterm delivery was present in 100% of our population. Babies born to mothers on HD were premature, gestational age at delivery (27 caesarean sections and 12 vaginal deliveries) was 30.9 ± 0.7 wks. Major causes of prematurity included maternal HTN polyhydramnios and premature rupture of membranes. Fetal weight at delivery was 1404± 108 g. 22 newborn babies' weight less than 1500 g., 13/22 survived. 4 displayed serious complications due to prematurity, low birth weight and small gestational age. Fetal demise was high, (especially for the multiple pregnancies, surviving only half of the twin) during the perinatal period. Four fetal deaths were associated with respiratory distress, two with congenital abnormalities and finally two died from severe necrotizing enterocholitis. Out of those who survive, Infants under 1500 g were followed at a High Neonatal Risk Office. 4 had retinopathy and underwent laser therapy, 2 auditive disorders, 3 developmental delay disorders with dyslexia, 1 had arrhythmia, 1 underwent traumatological surgery because of congenital deformities and has long medical problems. Children whose mothers underwent intensified HD had better weight and no one reported adverse school outcome. The older daughter is now 19 years old, and has been mother of a healthy baby last year.
Conclusions: Pts. with chronic renal impairment seems to get benefits of early and intense dialysis, EPO (doses were double increased) and advances in dialysis, obstetrics and neonatal care have improved the outcomes. It remains difficult to advise this women to conceive during HD.

SP592 IMPACT OF SUBCLINICAL HYPOTHYROIDISM ON CARDIOVASCULAR OUTCOMES IN PATIENTS WITH CHRONIC KIDNEY DISEASE STARTING DIALYSIS TREATMENT

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Introduction and Aims: Subclinical hypothyroidism (SCH) is highly prevalent in patients with chronic kidney disease (CKD). Although SCH is thought to be associated with increased risk for atherosclerosis, the data on cardiovascular outcomes were conflicting in general population. Furthermore, little is known about the effect of SCH on cardiovascular outcomes in CKD patients. To explore this question, we conducted retrospective cohort study to evaluate the prognostic effect of SCH diagnosed at dialysis initiation on cardiovascular outcomes in CKD patients on dialysis treatment.
Methods: We retrospectively analyzed the inception cohort data set in which 487 consecutive patients started dialysis between 2001 and 2009 at Rinku General Medical Center and were prospectively followed until December 2010. Patients with 1) abnormal free T4, 2) malignancy, 3) hormone replacement therapy were excluded for analysis. Thus, a sample of 412 patients was included in the final analysis. Blood samples were routinely collected in the morning on fasting subjects within 2 week before the first dialysis session. SCH was defined as a serum thyroid-stimulating hormone (TSH) concentration above the upper limit (3.73μU/ml) of the reference range and the serum free thyroxine within the reference range (0.82-1.67ng/dl). Ankle-brachial pressure index (ABI), intima-media complex thickness (IMT), left ventricular mass index (LVMI) and ejection fraction (EF) were measured at dialysis initiation and compared between the two groups with and without SCH. Cox proportional hazards models were used to identify the association between SCH and cardiovascular mortality on dialysis treatment.
Results: Prevalence of SCH was 26% (N=105). Patients with SCH had higher prevalence of diabetes (54% vs 33%; P=0.000) and lower serum albumin level (median; 2.9g/dl vs 3.2g/dl, P=0.003) compared with those without SCH regardless of similar proteinuria level (P=0.127). There was no statistical difference in ABI (N=199, P=0.478), IMT (N=199, P=0.155), LVMI (N=354, P=0.981) and EF (N=354, P=0.711) between the two groups. Cox proportional hazards models revealed that SCH was not associated with cardiovascular mortality but significantly associated with 5-year all-cause mortality (HR 1.036, 95%CI 1.001-1.073, P=0.042) when adjusted for age, gender, diabetes and cardiovascular history.
Conclusions: Our results suggest that SCH is associated with all-cause mortality but not with cardiovascular outcomes in CKD patients starting dialysis treatment.

SP593 SEASONAL VARIATIONS IN CLINICAL AND LABORATORY PARAMETERS — A GLOBAL PERSPECTIVE

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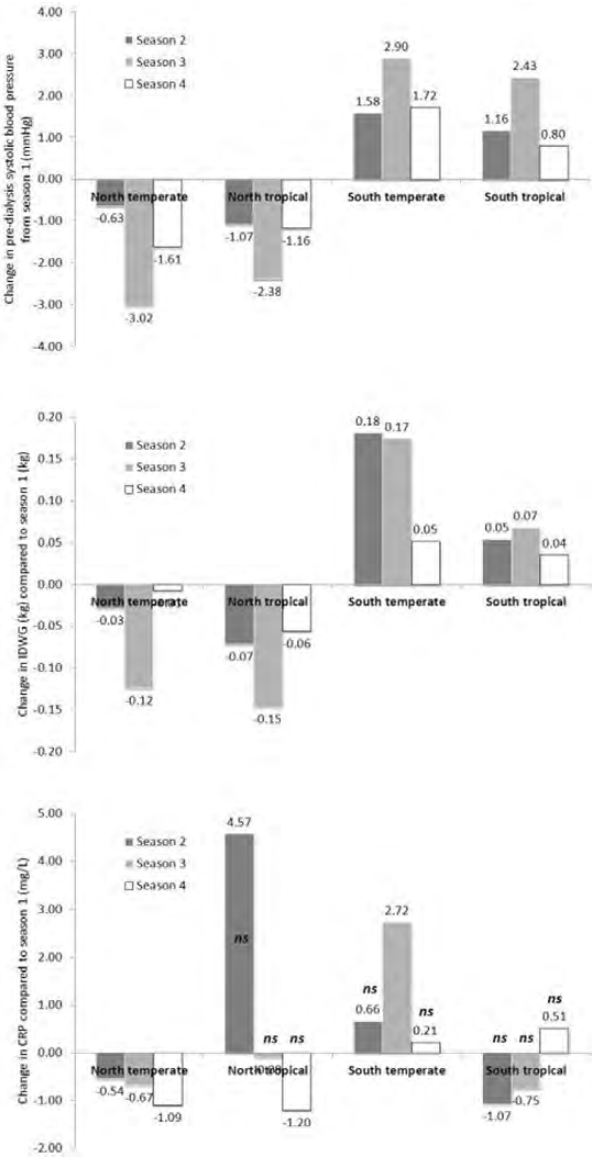
Introduction and Aims: We aim to understand whether clinical parameters follow seasonal patterns in a world-wide dialysis population.
Methods: The MONitoring Dialysis Outcomes (MONDO) databases from RRI, FMC Europe (17 countries), FMC AP (9 countries), and FMC LA (5 countries) were queried to identify HD patients who had HD tx for >=1 year [Usvyat, Blood Purification 2013]. Seasons were defined based on treatment date: season 1: Dec-Feb; season 2: Mar-May; season 3: Jun-Aug; season 4: Sep-Novr. Avg of pre-dialysis systolic blood pressure (preSBP), C-reactive protein (CRP), and interdialytic weight gain (IDWG) were computed per patient per season between Jan 1, 2000 and Sep 30, 2012. Patients were stratified into one of four groups based on clinic location: northern/southern hemisphere and temperate/tropical climate (using Tropic of Cancer/Capricorn). Linear mixed models were constructed to determine whether seasons played a role in those four groups.
Results: N=87,399 patients (FMC AP 14,871; FMC Europe 45,282; FMC LA 19,275; RRI 7,521). In northern & south hemispheres, as well as tropical and temperate climates preSBP appeared significantly different between seasons. In northern hemisphere, highest preSBP was in season 1. The observations were reversed for southern hemisphere. Seasonal differences were observed in both temperate and tropical climates. IDWG was highest in season 1 in northern hemisphere and season 3 in southern. There were no significant differences in CRP in the tropical climates. In temperate climates, CRP appeared highest in season 1 in northern hemisphere and in season 3 in southern. Figure 1. Relative effect of seasons. Coefficients are significant compared to season 1, unless otherwise indicated with *NS*



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Conclusions: This study in a global HD patient cohort demonstrates a significant seasonal influence on preSBP, IDWG, and CRP. Seasonality needs to be considered in studies involving these parameters.

SP594 DOES HEPATITIS VIRUS INFECTION INFLUENCE ONE-YEAR OUTCOME IN PATIENTS WITH HEMODIALYSIS?

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Introduction and Aims: Although the prevalence of hepatitis in hemodialysis patients has decreased, the number of infected patients is still high.Our study explores the effects of hepatitis virus infection on one-year outcome in hemodialysis patients.
Methods: 600 patients from 7 HD centers in Romania(age 54.5+/-13.5 years, 332 male, 268 female), on hemodialysis(HD) for 4+/-3.7 years, have been included in this study. The patients included in the study have been followed up for one year. Dialysis quality, anemia,mineral and bone disorder,serum albumin,CRP, BMI, have been analyzed. Cardiovascular disease -CVD, diabetes mellitus -DM), B and C hepatitis infection and one year mortality rate have been followed up.
Results: Hepatitis virus infection(B/C)was present in 191 (31.8%) pts. (HBV in 4.5%, HCV in 22.3%, HBV+HCV in 5%). Patients have been divided into two groups:1-negative for hepatitis viruses (n=409) and 2–positive (n=191). Group 2 was under HD for a longer period of time (6.3 vs. 2.9 years –p=0.0002). Group 2 had a better quality dialysis (eKt/V: 1.48 vs. 1.37 p=0.0001; Qb: 294.3 vs. 283.9ml/min p=0.0027). BMI did not differ between the two groups.Mean hemoglobin and ferritin levels were similar in both groups,but positive patients had higher TSAT values (32.6 vs. 29.9% p=0.048). Mean Ca, PO4 levels did not significantly differ in the two groups, but mean iPTH (716.6 vs. 545.6pg/ml p=0.0006), alkaline phosphatase levels were significantly higher (203.5 vs. 128.3U/l p=0.0051) and 25OHD levels were significantly lower (20.8 vs. 23.7µg/l p=0.016) in group 2. CRP levels did not differ in the two groups, but mean serum albumin levels were lower (39.9 vs. 43.3g/l p=0.00001) in the positive ones.The prevalence of CVD and DM was similar in the two groups and one year mortality was different. One year mortality in group 1 was positively correlated with the prevalence of CVD (p=0.001), DM (p=0.001) and negatively with Qb (p=0.018), BMI (p=0.013) and 25 OHD (p=0.32). In group 2, one year mortality correlated positively with age (p=0.002), CRP(p=0.024), Ca (p=0.046) and CVD (p=0.001) and negatively with eKt/V (p=0.025).
Conclusions: Prevalence of hepatitis infection is decreasing in the dialysis population in the last 20 years. One year mortality in the hepatitis infected dialysis population was similar to non- infected ones,supporting the idea that the simple presence of the virus does not influence outcome, mortality being dependent from other clinical and biological data in infected patients versus non-infected patients.

SP595 HEPATITIS C INFECTION IS AS AN INITIATION FACTOR BUT NOT PROGRESSION FACTOR TO RENAL DISEASE?

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Introduction and Aims: The causality between hepatitis C virus infection and renal disease is still unclear. The study aim is to investigate the risks of hepatitis C in progression to end-stage renal disease in patients of chronic kidney diseases.
Methods: The study cohort included patients of chronic kidney diseases from 2002 through 5/31/2008, in one medical center of southern Taiwan. Subjects were traced until starting dialysis, death, or end of 2008. Competing risk Cox proportion hazard model was used to estimate the cumulative incident rate and risk of end stage renal disease. All statistic tests were considered as significant while p-value less than 0.05.
Results: Totally, there were 2,081 patients with chronic kidney disease included in final analysis. After adjusted age, sex, primary diseases, educational status, stage of chronic kidney diseases, albumin, the results showed hepatitis C virus infection did not significantly increase risk of progression to end-stage renal disease (Hazard ratio: 1.28, 95% CI: 1.00-1.65, p=0.0516), despite of a borderline p value.
Conclusions: Previous study had proved a positive association of hepatitis C virus infection with chronic kidney disease. From our results we demonstrate that hepatitis C is not a progression factor to end-stage renal disease.

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Variables	Hazard Ratio	95% Confident Interval	P-value
Age, y	0.98	0.97-0.98	<.0001
Sex			
Male	1 [Reference]		0.0002
Female	0.74	0.63-0.87	
Educational status, y			
0-6	1 [Reference]		
7-12	0.76	0.63-0.92	0.0054
≥13	0.81	0.62-1.07	0.1425
Primary diseases			
Chronic glomerular nephritis	1 [Reference]		
Diabetes mellitus	1.38	1.15-1.67	0.0006
Other diseases	0.80	0.65-1.00	0.0517
CKD stage			
1&2	1 [Reference]		
3	21.13	6.69-66.75	<.0001
4	5.80	1.76-19.1	0.0038
5	126.65	40.39-397.1	<.0001
Albumin, mg/dL	0.37	0.33-0.43	<.0001
Viral hepatitis B infection			
None	1 [Reference]		0.5037
Yes	0.92	0.71-1.18	
Viral hepatitis C infection			
None	1 [Reference]		0.0516
Yes	1.28	1.00-1.65	

SP596 THYROID FUNCTION AND VOLUME IN PATIENTS WITH END-STAGE RENAL DISEASE ON HEMODIALYSIS -UNDERLING RENAL DISEASES

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Introduction and Aims: Thyroid function and thyroid gland volume (TV) was evaluated in 145 Japanese end-stage renal disease (ESRD) patients on hemodialysis (HD).
Methods: The underlying causes were chronic glomerulonephritis (CGN, n=82), diabetic nephropathy (DM, n=30), hypertensive nephrosclerosis (HNT, n=12), and polycystic kidneys disease (n=5).
Results: Apparent thyroid dysfunction among the ESRD patients was suggested as follows; thyrotoxicosis in 2 (1.4%), hypothyroidism in 25 (17.2%), and low triiodothyronine (T3) syndrome in 23 (15.9%) of the HD patients. Hypothyroidism (thyroid-stimulating hormone > 5.5 mU/l) was more frequent in CGN (8 cases, 5.6%), especially in DM (1 cases, 0.7%). Free T3 (FT3)/free thyroxine (fT4) was much lower in the HNT group (P<0.05) with smaller TV (P<0.05) than in the CGN group. The serum thyroglobulin value was significantly higher in the CGN group than in the DM group (P<0.05). The ultrasonographic TV was examined and the TV of all patients was 14.3±5.9 ml. Although goiter (defined as a TV > 20 ml) was observed in 22 HD patients (15.2%), the number of CGN was 13 patients (9.0%), DM 6 patients (4.2%), and the other diseases 3 patients (2.1%).
Conclusions: Hypothyroidism was as high as 5.6% in the CGN group, suggesting impaired handling of iodide excretion and immunological perturbation, but low in the DM group. FT3/fT4 and TV were lower in the HNT group, suggesting accelerated senile change including atherosclerosis.

SP597 RELATIONSHIP BETWEEN SERUM SODIUM VARIABILITY AND HOSPITAL ADMISSION IN HEMODIALYSIS PATIENTS

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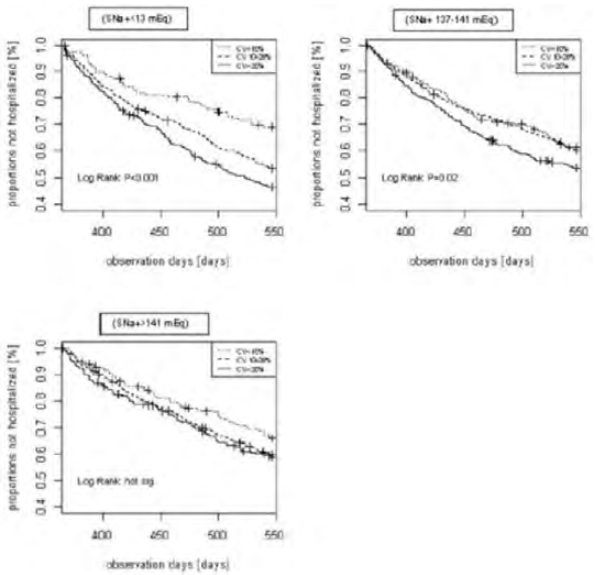
Introduction and Aims: Recent reports in prevalent hemodialysis (HD) patients indicated that pre-HD serum sodium (SNa^+) concentrations are stable over time ("SNa^+ setpoint"; Keen, Int J Art Organs 2007). Pre HD SNa^+ concentration has been linked to outcomes in HD patients (Waikar, Am J Med. 2011) and an increased pre-HD SNa^+ variability over time has shown to be related to increased morbidity and mortality (Raimann, ERA-EDTA 2012). We investigate the relation between SNa^+variability and hospitalization in incident HD patients.
Methods: This longitudinal cohort study included HD patients between 1/2001 and 7/2008 in US clinics of the Renal Research Institute. Patients with at least three SNa^+measurements in the first 3 months on HD were included and stratified by average SNa^+: (1) <137, (2) 137-141, (3) > 141 mEq/L; and by SNa^+variability: Coefficient of variation (CV) (1) <10%, (2) 10 to 20% and (3) >20%. Patients were followed-up for 18 months. Kaplan Meier analysis was used to estimate time to first hospitalization, stratified by SNa+ concentration and CV. Cox regression was used to compute hazard ratios (HR) of hospitalization in months 13 to 18 adjusted for gender, race, age, vascular access, co-morbidities, systolic blood pressure and eKt/V.
Results: We studied 4451 HD patients (age 61±15.21, 56% male, 56 % diabetic, 43 % Blacks). Time to first hospitalization was significantly shorter in patients with SNa^+<137 and CV>20% (log rank P<0.001) and SNa^+ 137-141, CV>20% (log rank P=0.02) see figure 1. Multivariable Cox Regression indicated that patients in the (SNa^+<137, CV>20%) group were at higher risk of early hospitalization (HR 1.4; P=0.011). There appears a non-significant trend towards higher HR associated with higher CV see table 1.
Conclusions: Both SNa^+ level and stability are associated with hospitalization in incident HD patients. Our study indicates a relation of SNa^+<137 mEq/L and high SNa^+variability with a shorter time to first hospitalization. Factors causing higher SNa^+ variability remain to be elucidated.



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SNa^+ [mEq/L], CV SNa^+ (%)	Hazard Ratio (95% CI)
<137, <10	0.7 (0.5 to 1.1)
<137, 10-20	1.2 (0.9 to 1.5)
<137, >20	1.4 (1.1 to 1.7)
137-141, <10	reference
137-141, 10-20	1.0 (0.8 to 1.3)
137-141, >20	1.2 (1.0 to 1.5)
>141, <10	0.9 (0.7 to 1.2)
>141, 10-20	1.1 (0.9 to 1.3)
>141, >20	1.1 (0.8 to 1.5)

SP598 IMPLEMENTING AN ANTICOAGULATION PROTOCOL DESIGN - A SAFE AND EFFECTIVE MANAGEMENT OF ANTICOAGULATION THERAPY

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Introduction and Aims: Literatures have emphasized that administration of anticoagulation in dialysis promotes minimal filter clotting and post dialysis bleeding, and improves patient quality of life through prolongation of the vascular access.
Objective: This study evaluated the protocol plan designed to deliver both High and Low Molecular Weight Heparins (HMWH, LMWH) as bolus and cath-dwell and develop a relationship between filter clotting, post dialysis bleeding (PDB), blood flow

rate (Qb), and activated Partial Thromboplastin Time (aPTT) among hemodialysis (HD) patients.
Methods: 208 HD patients were included in an evaluative cross-over design; bolus-LMWH and HMWH as cath-dwell for the first 6 months and vis-à-vis on the next 6 months. Regression and ANOVA were used for analysis with R square as basis related to heparin adjustment and different filters in single-use basis.
Results: Results indicated filter clotting among fistula (f=8, *spv=0.742*) and catheter (f=17, *spv=0.323*) patients when bolus-LMWH was used. Consequently, an increase was noted when bolus-HMWH was used on similar procedures with fistula (f=12, *spv=0.79*) and catheter (f=19, *spv=0.510*). Relatively, filters show "streaky" formations (f=26, *R=0.910*) on both venous and arterial points with bolus-HMWH while only (f=18, *R=0.116*) in bolus-LMWH; partial correlation was noted (*p=0.039)*. No incidences of clotted-catheters were noted when both heparins were used as dwell. The mean fistula/graft post dialysis bleeding time is 6.8 minutes (mean aPTT=15 to 25 mn) with 11.43% accounted cases of >10 minutes post dialysis bleeding and a mean Qb of 432ml/mn (fistula) and 278ml/mn (catheter). Clotting and bleeding events were analyzed using an adjusted R square revealing a significance of (*R*=0.046). Moreover, strong correlation was notable on the use of bolus-LMWH to aPTT (*p=+0.78)* with 0.003 mean square in the regression analysis.
Conclusions: The results of the study have strengthened the use of the *anticoagulation protocol* designed to enhance effective therapy while promoting optimal dialysis. Significantly, the study enables the collaborative team to identify cost-efficiency while protecting patient safety.

SP599 PERITONEAL DIALYSIS USAGE (PD): WHAT IS A REALISTIC GOAL IN EUROPE?

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Introduction and Aims: Studies have shown that 70-78% of patients do not have contraindications to PD.[1,2] When offered the choice, 40-50% of them will choose home,[1,3] hence, 28-39% of incident patients shall be on PD (vs today's 19%).[4] Assuming that the highest rates observed in the 2010-ERA-EDTA registry report are the maximal achievable rates, the aim of this analysis was to calculate what could be the overall usage of PD considering today's age distribution of end-stage renal disease (ESRD) patients in countries reporting full data to the ERA-EDTA registry.
Methods: The age distribution of ESRD patients and PD usage per age group were extracted from the 2010 ERA-EDTA registry report. The maximal PD rate in each age group (incident patients) was used to estimate the potential PD usage considering today's age distribution of ESRD patients overall and per country.
Results: The highest PD usage per age group was seen in Finland (45% in 20-44 years old), Denmark (40% in 45-64 years old), and Sweden (38% in 65-74 years old and 27% in 75+ years old). The average potential PD usage considering today's age distribution of ESRD patients was 36±1.2%. While Sweden and Denmark could still increase their PD usage by 2-4 %, large increases (20-29%) appear possible in Italy, Spain, France, Belgium, Austria, Greece and Romania. The UK (16%), the Netherlands (13%) and other countries (11-13%) lie in between.
Conclusions: This analysis shows that a 36% rate of incident patients commencing PD is achievable considering today's age distribution of ESRD patients (assuming that the highest reported usage per age group is the maximal achievable). Provided the health status of patients is similar across this basket of 14 countries, there is scope for significant increases in use of PD across Europe. 1. Mendelssohn DC et al. NDT 2009; 24:555-561 2. Jager KJ et al. AJKD 2004; 43: 891-899 3. Goovaert T et al. NDT 2005; 20: 1842-1847 4. 2010 ERA-EDTA registry report.

SP600 RENAL REPLACEMENT THERAPY IN HUNGARY 1991–2011

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Introduction and Aims: A significant improvement has begun from 1991 in Hungarian dialysis program because of privatization. The private sphere covers more than 90% of dialysis facilities in Hungary at present. The authors show national data and development in renal replacement therapy (RRT) between 1991 and 2011.
Methods: The year by year questionnaire-based data were collected by Hungarian Dialysis Registry Committee.
Results: Five dialysis centers for pediatric and 39 for adult patients were active in 1991 in Hungary and the number of adult centers have increased to 57 by the end of 2011. First day incidence (per million population-pmp) of new dialyzed patients was 72 in 1991 (included 27 for acute kidney injury [AKI] and 45 for end stage renal disease [ESRD]) and 488 pmp (247 for AKI and 241 for ESRD) in 2011. The number of prevalent dialyzed patients (pmp, at the end of the year) was 139 in 1991, and it has continuously increased to 625 until 2011. The peritoneal dialysis (PD) penetration rate (patients on PD / total number of dialyzed patients at the end of the year) was 12,8 % in 1991 (50-50% of intermittent peritoneal dialysis [IPD] and CAPD, but it decreased to 7,1 % by the end of 2000. From this year the PD (CAPD and APD) penetration rate has been growing: it was 14,2% at the end of 2011. There were delivered 5404 renal transplantation from 1991 to the end of 2011 (the number moved between 250-300 Tx/year). The patient's number on renal transplantation waiting list was 741 in 1991 and only 871 in 2011. At the end of 1991, 420 patients lived with functioning kidney graft. This number has risen to 2780 until the end of 2011. The prevalence of Hungarian ESRD patients on RRT was 172 pmp in 1991, and 903 pmp in 2011.
Conclusions: There was a significant improvement regarding the RRTs in Hungary based on the development of clinical nephrology, dialysis therapy and renal transplantation by last two decades. The annual increase in the first day incidence of dialysis treatment was higher in acute cases than ESRD patients (in 2011) – but the latter one (241 pmp) was also high, (in contrast with the EDTA average: 125 pmp / 2010). The increase in prevalent patients on maintenance dialysis was much smaller in last few years, than previously. The Hungarian peritoneal dialysis program showed a great increase in last ten years. Unfortunately, the renal transplant activity and the volume of patients on waiting list were not able to grow in the last decade.

SP601 HBV STATUS IN DIALYSIS PATIENTS: A MULTICENTER COHORT STUDY FROM SICILY

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Introduction and Aims: The prevalence reported in the literature of HBsAg positive patients on chronic dialysis in the industrialized countries is 1% for USA, 11,2% for Japan and 6,6% for Italy. In 1983 the introduction of the obligatory vaccination determined a reduction of the incidence of HBsAg positive patients to 0,9/100.000 citizens in the general population in 2010. This study reports epidemiologic data concerning HBaAg positivity in Sicilian patients on chronic dialysis.
Methods: The data of prevalent patients on chronic dialysis of the Sicilian Registry of Nephrology, Dialysis and Transplantation were analyzed in 2011. Three indicators have been used: 1) the percentage of HBsAg positive patients (N=59) / prevalent patients (N=4174); 2) vaccination coverage: number of vaccinated patients (N=1110) / total dialytic population (N=4174); 3) rate of seroconversion: no responders (N=407) / total vaccinated patients (N=1110).
Results: The prevalence of HBsAg positive patients on chronic dialysis is low (1,4%); none patients under 35 years old is positive; there are not demographic, clinic and laboratory differences between the two groups of HsAg positive and HBsAg negative patients. Moreover, HBsAg positive patients have the same probability of being registered on waiting list for kidney transplantation compared with HBsAg negative patients. Vaccinated patients are 37,6% (N=1110) of dialysis patients, they have a high instruction level compared with the ones that are not vaccinated (15% vs 12%), 13% of vaccinated patients is registered on waiting list for kidney transplantation vs 7% of non-vaccinated patients. 81% of vaccinated patients has FAV vs 75% of non-vaccinated patients; the dialytic age is less than 1 year in the 8% of vaccinated patients vs 14% of non-vaccinated patients. No responder patients to the vaccination are 36,7%, a lower datum compared to the one reported in the literature (50%); they are older (68,6 vs 65,5 years old), have a lesser dialytic age (59 vs 81 months), a lesser probability to be registered on the waiting list for kidney transplantation (10% vs 15%) compared with the responders. The contemporary positivity for the HCV does not influence seroconversion.
Conclusions: In Sicily, the HBV diffusion is not a significant problem anymore. It is important to submit the dialytic population on screening. It is also important to vaccinate patients on dialysis even if seroconversion is limited to 2/3 of vaccinated patients.

SP602 DIALYTIC TREATMENT DOES NOT INCREASE THE RISK FOR INFECTIVE DEATH IN PATIENTS WITH MYELOMA-RELATED END STAGE KIDNEY DISEASE

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Introduction and Aims: Multiple myeloma (MM) is an incurable malignancy that often leads to end stage kidney disease (ESKD), and consequently dialysis. The aim of this study was to evaluate whether dialytic treatment increased the risk for death in myelomatous patients with ESKD.
Methods: We studied the causes of death in 170 patients with a novel diagnosis of MM and kidney impairment.

Results: 65 patients (38%) presented with ESKD, defined as an estimated glomerular filtration rate (eGFR) of less than 15 mL/min. This was the cohort analyzed for the aim of the study. Median age at presentation was 67.0 (43-86) years, males were 53.8% of the cohort, median eGFRwas 7.0 (1-14) mL/min. During a median follow-up time of 2.8 years (IQR 0.9-6.2), 47 patients (72.3%) died and 43 (66.2%) were treated with dialysis, either in the form of hemodialysis (70.4%) or peritoneal dialysis (29.6%). 80% of the patients who required renal replacement therapy (RRT), needed it within 7 days from presentation. The untreated uremic patients (33.8%) were deemed to be too frail to undergo any kind of RRT, and received a conservative management for ESKD. Both cohorts had the same hematologic treatment for MM, except for 3 patients who only received palliative care. The most common causes of death in the two groups were: infections (89.2%), uremia (7.6%, only in the conservatively managed group), bleeding (1.6%), myocardial infarction (1.6%). Patients with ESKD, who were treated with RRT did not have a higher risk for overall death than the untreated (39.5% vs. 21.1%, p= 0.245). We also found that the RRT treated cohort did not have a higher risk for infective death than the untreated (93.8% vs. 86.7%, p= 0.417).
Conclusions: Our study highlights that MM is highly associated with ESKD at diagnosis. MM-related ESKD often requires RRT within few days from its development. Patients should promptly receive RRT if needed, as they may benefit from this therapy with a good quality of life. RRT does not represent a cause for increased overall or infective death.

SP603 EFFECTIVENESS OF MULTIDISCIPLINARY PRE-DIALYSIS EDUCATION AND TEAM CARE ON PATIENTS LIFESTYLES AND CLINICAL OUTCOMES

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Introduction and Aims: Multidisciplinary predialysis education (MPE) programs may improve the medical care of patients and has significantly impact of clinical and quality of life outcomes. The aim of the study was to assess the influence of multidisciplinary predialysis education on lifestyles and clinical outcomes in chronic kidney disease (CKD) patients.
Methods: A total of 4350 chronic kidney disease patients with an estimated glomerular filtration rate between 15 to 60 mL/min/1.73 $m^2$and with an age of 18 to 105 years were included to the study in a period of July 2007 to January 2012. Patients were followed-up for 12 months according to lifestyle and clinical parameters. Also patients were evaluated to control of the hypertension, proteinuria levels, total number of anti-hypertensive medications, and the use of total drugs per day. All patients and their families received at least 5 times interactive pre-dialysis education seminars by a pre-dialysis education team which include 1 nephrologist, 3 physicians, 2 hemodialysis and 1 peritoneal dialysis nurses, 3 dietitians, 1 social work expert, and 1 psychologist. An appropriate diet list was prepared for all patients and an optimal medical care was given based on the NKF/DOQI guidelines.
Results: The percent of smoking cigarettes, exessive salt and alcohol intake. bread consumption, use of non-steroidal anti-inflammatory drugs, use of nephrotoxic antibiotics, use of iodinated contrast agents without prophylactic medications, and the rate of not to consult and collaborate with their physician before taking any medicine decreased significantly ($p<0.05$). Duration of exercise ($p<0.05$) and water intake per day increased ($p>0.05$). The control of hypertension increased, number of antihypertensive drugs taken per day, number of total drugs taken per day, and proteinuria decrased significantly ($p<0.05$).
Conclusions: Our study suggest that an efficient MPE may play a significant role in control of hypertension and proteinuria in CKD patients. Also MPE reduces the need for antihypertensive medications and helps to make positive lifestyle changes in CKD patients.

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	Before Education	After Education	p
Smoking Cigarettes	34%	6%	<0,05
Duration of exercise per day (minute)	5	35	<0,05
Bread consumption per day (gr)	500	150	<0,05
Excessive salt intake (>18gr/day)	57%	0,7%	<0,05
Alcohol use (>2 arracks or equivalent drinks/day)	8%	1,5%	<0,05
Water intake (ml/day)	1000	1500	>0,05
Not to consult and collaborate with their physician before taking any medicine	43%	0,6%	<0,05
Use of nephrotoxic antibiotics	34%	1%	<0,05
Use of non-steroidal anti-inflammatory drugs	62%	3%	<0,05
Use of iodinated contrast media without prophylactic medications	32%	5%	<0,05
Hypertension (arterial blood pressure >140/90 mmHg, %)	66%	15%	<0,05
Proteinuria (mg/day)	1200	400	<0,05
The number of antihypertensive drugs taken per day	3,4	1,5	<0,05
The number of total drugs taken per day	6,8	3,2	<0,05

SP604 AWARENESS OF CKD IN AN GPS ITALIAN GROUP BEFORE AND AFTER AN EDUCATIONAL INTERVENTION

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Introduction and Aims: The burden of chronic kidney disease (CKD) is high, (in Italy of 3-5 DOQI is about 6%) and is associated with considerable morbidity and mortality especially in its later stages. If RRT is started, the costs are substantial and forecasted to rise even more in future. The best approach to the under-diagnosis of CKD is to ensure that all health care professionals, both generalists and specialists, understand the importance of the early diagnosis of CKD. Although general screening is not recommended, physicians should be aware that older patients, diabetics, and hypertension pts, or CV disease should be systematically screened for the presence of CKD. This study investigate the under-diagnosis of CKD in primary care following an educational intervention.
Methods: A total of 73 GPs and involved the heads of the administrative-managerial local health units. The inclusion criteria was all diabetic and hypertensive patients over 18 age referred to GPs offices within the previous year. The study consisted of two phases: The first consisted in a snapshot picture of the real situation of the investigation of kidney function (KF) by primary care. The second investigated the screening of CKD after an educational intervention At the end of the first phase the GPs enrolled, participated to the first training session and discussion of the problem. Subsequently, the GPs extracted from their computerized databases a smaller dataset referred to patients with diabetes and hypertension. From this smaller dataset, 15572 pts, was assessed the % of requested Creatinine, eGFR estimate by MDRD, and the reported ICD9 code. In the second phase we illustrated results related to the first phase, and we underlined that CKD is potential public health problem and the importance of an early assessment of KF After six months we extracted a dataset of data of patients referred to primary care in this space of time.
Results: We have selected 15572 patients of which 6163 (40%) have had a creatinine assessment. Of which 979 were in class 3-5 DOQI; (16%) only 271 patients were correctly attributed to the related ICd9 code (27%). After the educational intervention we had 9376 pts referred in six months to primary care office and 5473 creatinine prescribed 58%.This corresponds to a relative increase of +45% and an absolute increase of +18% compared to the baseline In the first phase the patients in DOQI class 3-5 were about 15 % (quite the same of the second phase) while the attribution of ICD9 code were up to 35% from 27% at baseline.
Conclusions: The awareness of the importance of a correct diagnosis of IRC is poor and not widespread. The adoption of appropriate behavioural measures for GPs induced by their personal involvement are able to improve an important approach to a problem that for its prevalence may, if not regulated properly, lead to serious health problems and financial burden.

SP605 ORAL DISEASE IN PEOPLE WITH CHRONIC KIDNEY DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS OF COHORT STUDIES

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Introduction and Aims: Oral disease includes a wide spectrum of clinical abnormalities affecting the mouth including mucosa, teeth, periodontal tissue and salivary function. While observational data for oral and dental diseases are available in people with chronic kidney disease (CKD), existing published information has not yet been systematically evaluated. We aimed to summarize the overall prevalence of oral diseases in people with CKD and explore associations between oral disease and mortality in this clinical setting.
Methods: We conducted a systematic review and meta-analysis of observational studies reporting prevalence or clinical outcomes of oral disease in people with CKD. English-language studies were identified from systematic searching MEDLINE through April 2010. Multiple reviewers extracted details on participant characteristics, tools used to measure oral disease, details of statistical analyses including adjustments for

confounding. Estimates of prevalence, mean score, or risk of mortality were summarized using random-effects meta-analysis and expressed as rates or means and 95% confidence intervals (CI). Effects of severity of CKD on estimates were analyzed using subgroup analysis.
Results: 112 studies (150 cohorts) including 18 339 people with CKD and 16 310 controls were analyzed. 103 cohorts were in people on dialysis, 22 cohorts were in earlier stages of CKD and 25 cohorts were in kidney transplant recipients (15.6%). The mean decay/missing/filled teeth (DMFT) index in people with CKD was 13.7 and number of teeth was 19.4. Nearly 40% of people with CKD had enamel hypoplasia and over half had periodontitis. Overall, the mean plaque index was 1.62 and periodontal pocket depth (PPD) was 2.30 mm. Approximately 25% of people with CKD reported never brushing.
Conclusions: Data evaluating the prevalence and severity of oral disease in people with CKD are sparse and incomplete. Large longitudinal studies of the prevalence and clinical associations with oral disease in CKD are now needed.

SP606 THE ASSOCIATION BETWEEN SOCIAL SUPPORT AND PSYCHOSOCIAL FACTORS UPON MORTALITY AND QUALITY OF LIFE

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Introduction and Aims: Treating End Stage Renal Disease (ESRD) by hemodialysis (HD) creates changes to relationship patterns, social life, activities of daily living and the ability to attain a satisfactory Quality of Life (QoL). There is an absence of information in Saudi Arabia on the impact of these changes in the renal population.
Objective This study investigated the influence of social support and other psychosocial factors upon mortality, adherence to medical care recommendations, and physical QoL amongst hemodialysis patients.
Methods: 272 HD patients were examined using the QoL questionnaire to determine self-reported inclinations. Logistics regression through Weighted K was used to analyze data.
Results: 53.5% of patients reported *health had interfered with their social activities* demonstrating a strong associated with risk towards All-Cause (sp=1.33) and Cause-Specific Mortality including cardiac diseases (sp=1.28). These patients had a greater risk of withdrawing (sp=1.67) from treatment, non- adherence to Phosphorus (sp=1.06) greater than 7.5 mg/dL and increased risk towards an albumin of less than 3.5 g/dL (sp=1.23). Patients reporting *dissatisfied with family support*(12.0%) were at highest risk to non-adherence to intra-dialytic weight gain (sp=1.27), shortening the dialysis session (sp=1.21) and increased risk of Potassium level greater than 6 mEq/L (sp=1.14). However, patients reporting *dissatisfied with staff support* (14.1%) revealed a higher risk of decreased physical QoL (sp=0.76).
Conclusions: This study demonstrated that physical QoL was not only affected by medications and other laboratory work-ups but also with additional psychosocial support. The study led to the development of programs empowering patients and families to participate in their treatment plans. The program includes various counselling approaches directed to patient, families, and health team.

SP607 OCTOGENARIANS PATIENTS WHO STARTED HEMODIALYSIS: MORBIDITY AND MORTALITY FACTORS

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Introduction and Aims: Improve in diagnosis and treatment of end-stage kidney disease, has allowed that patients older 80 years started renal replacement therapy (RRT). Nevertheless, this kind of patients has many comorbidity factors conditioning their outcomes and increasing their mortality.
Methods: We reviewed 388 patients who started hemodialysis (HD) in our hospital from January-2004 to October-2012, analyses 33 patients (12%) older than 80 years.
Results: At commencement HD, median age 82 years (interquartile range (IQR) 80-89), 58% female. Cause of renal disease: 33% nephroangioesclerosis, 12% diabetic nephropathy. 64% were followed in nephrology consults, median 13 months (IQR 3-95), and 84% treatment with furosemide for blood pressure (BP) control. The median Charlson Comorbidity Index were 8 (IQR 7-16), 55% of patients with one, 33% with 2 and 12% more than 3 comorbidities. Mainly were 48.5% patients with diabetes, 45% with arrhythmias (basically atrial fibrillation), 24% with peripheral vascular disease, 21% with cancer and 18% with coronary heart disease. Majority (73%) started HD due to progressive decline of renal function, only 18% for acute renal failure and 9% for congestive heart failure. However, only 18% started with prepared access (arterio-venous fistula). Median time in HD 19 months (IQR 3-102), we can reduced dry weight (p=0.001) and systolic blood pressure (p=0.001), increased hematocrit (p=0.003), and reduced hyperphosphatemia and PTH levels (p=0.001). Median follow up of 69 months (IQR 3-109), the older patients had a median of 2.5 admission and 39 days of hospitalization per patient, basically for cardiovascular problems, infection disease and problems with vascular access (thrombosis, catheter infection or dysfunction). In echocardiogram, 67% had dyastolic dysfunction and 24% pulmonary hypertension. At end of follow-up, 25 patients (76%) died, 1 was transplanted, 2 were lost to follow-up and 5 (15%) continue in HD. Main cause of death: 32% for decline of general status and therapy ceased: 20% for cardiac reasons; 20% for malignancy, 12% for infection. In total, 42.5% withdrawal HD. Survival using Kaplan-Meier analysis at 6, 12 and 24 months, were 87, 66 and 28% respectively.
Conclusions: In conclusions, our octogenarians patients can be included in RRT, obtaining a survival more than 50% at first year, with appropriate control of BP and dialysis parameters. The mortality was determined by multiple comorbidity factors. The main cause of death was decline of general status and withdrawal HD.

SP608 SELF-REPORTED DEPRESSION AND ANXIETY IN PREVALENT PATIENTS ON HEMODIALYSIS

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Introduction and Aims: Previous studies have shown that a high prevalence of depression (20-30%) in patients with chronic kidney disease (CKD). However, an overlap of depressive and uremic symptoms may often preclude proper diagnosis and treatment. To evaluate the prevalence of depression and anxiety in chronic kidney disease (CKD) patients undergoing hemodialysis (HD) and their possible correlations with clinical and laboratory variables.
Methods: We studied 84 patients (57M, 27F) aged 69.93±12.09 yrs, undergoing HD for 43.10±36.54 months. All patients were asked to voluntary complete the following tests: a) 21 item Beck Depression Invetory (BDI) questionnaire for depression screening, b) Geriatric Depression Scale score (GDS), c) the Generalized Anxiety Disorder questionnaire (GAD-7) and d) the Hospital Anxiety and Depression Scale (HADS). The cutoff for depression diagnosis in the BDI was 16 points, for GAD-7 >9, for HADS was >8 and for the geriatric depression scale score >5. These results were correlated with various clinical and laboratory variables. Concomitant diseases were assessed by the Charlson Comorbidity Index (CCI).
Results: The mean HADS anxiety score was 12.60±4.88 for anxiety and 9.19±5.40 for depression, the mean GAD-7 was 7.58±5.65, the mean BDI was 20.27±12.35 and the mean GDS was 7.87+_12.72. Depression was found in 54.76% using the HADS test, in 59.03% using the BDI test and in 54.21% using the geriatric scale. 36.90 % percent of our patients exhibited a clinically relevant anxiety disorder using the HADS test for anxiety and in 33.75% patients using the GAD-7 test. Univariate/multivariate analysis revealed statistical correlations of the above scores with the number of daily prescribed medications, dialysis vintage and increased interdailytic weight gain.
Conclusions: The BDI, GDS, GAD-7 and HADS scores are simple and valuable diagnostic tools for the diagnosis of depression and anxiety in HD patients. Depression is highly prevalent in HD patients and daily prescribed medications, longer HD vintage and increased interdialytic weight gain are among the major predisposing factors.

SP609 FROM THE DOCTOR-PATIENT RELATIONSHIP TO THE ORGANIZATION OF AN IDEAL DIALYSIS CENTRE

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Introduction and Aims: Since the seventies of the twentieth century, the doctor-patient relationship has radically changed together with the evolution of the health care systems, expecially in the fields of chronic diseases, leaving more space to patients' preferences. In this context, a brainstorming session of medical students, nurses and patients had been organized for highlighting the peculiarity of the relationship between health practitioners and patients on chronic hemodialysis and focusing on the ideal organization of a dialysis center.
Methods: The meeting involved ten students, a representative of nurses with long dialysis experience and three dialysis patients with different medical histories and treatment schedules (patient 1 recently started home hemodialysis two times a week -partner his wife, patient 2 on home hemodialysis with a new portable dialysis system, patient 3 on daily hospital hemodialysis).
Results: Despite the great heterogeneity in patients' experiences and needs (nature of kidney disease, frequency of hemodialysis sessions, logistic problems) the brainstorming highlighted some common features, that can be traced as a guide in designing the ideal dialysis center. In details, the most important ones for the patiente were: empowerment, defined as having an active role in the therapeutic process; autonomy and freedom in choosing the possibility of home or hospital care; a good relationship with the dialysis staff, with a space for dialogue and clear and understandable explanations. Interpersonal and relational factors were considered at first place, stressing how an ideal dialysis center should not be limited to addressing technical and clinical problems, but should be flexible to allow tailoring therapy to the patient, with emphasis on empathy and therapeutic alliance between patients, doctors and nurses, for working together effectively, achieving common therapeutic goals.

Conclusions: The brainstorming meeting highlighted that flexibility and good integration between physicians, nurses, healthcare professionals and patients seems to be the key for the organization of an ideal dialysis center.

SP610 ACCEPTANCE OF PALLIATIVE CARE BY DIALYSIS PATIENTS AND THEIR FAMILIES IN NON-WESTERN SOCIETY

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Introduction and Aims: Despite its availability, Palliative Care is underutilized in the care of terminally ill ESRD patients. In this study we tried to address some additional aspects of this issue, especially the process of making decisions.
Methods: We observed the impact of the traditional family relationships, feeling of quilt and being a burden on the family, as factors of final decision. In the 3 years period between 2009-2012, 232 patients were dialyzed in our center. As eligible patients for PC were considered those who had a very poor prognosis, those with a terminal illness from non-renal causes, significant co-morbidities and whose medical condition would interfere with the technical process of dialysis because the patient was unable to cooperate.
Results: 27 (12%) patients aged from 41 to 88 years, were eligible for PC. Not to be dialyzed and treated anymore was decision made by 1 patient and by 4 families for patients unable to decide. The rest of patients decided to continue dialyzing. In 96 % of decision making the patient left the family to decide. Three patients felt as burden for the family. Families consisted of 1-7 members (mean 3.7) and all of them demonstrated feeling of quilt as the main reason for not considering Palliative Care. Different religion did not affect decision. 33% of families were well educated and with good socio-economic status.The mean survival time of the group, which continued dialyzing, was 86±52 days, and 50% of that time was spent in hospital. In 75% of patients fistula was created.
Conclusions: Negative attitude towards discontinuing dialysis relies on deep family relations and reflects traditional non-western society.

SP611 EPIDEMIOLOGY OF RENAL FAILURE IN MALTA

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Introduction and Aims: Renal services have been available in Malta since 1982. This study represents the first attempt to assess the epidemiology of renal failure in Malta and the associated burden of co-morbidities. The aim was to stage patients with renal failure in a single nephrology clinic in Malta, to detect the frequency of their co-morbidities, and to determine their haemoglobin status.
Methods: All prevalent patients attending a single Nephrology clinic in Malta over a period of 12 months (September 2007 till September 2008), were included in this observational study. Demographic and biochemical parameters were obtained from the clinic database. The estimated glomerular filtration rate was determined using the 4-variable Modification of Diet in Renal Disease formula. Staging of renal failure was according to Kidney Disease Outcome Quality Initiative (KDOQI) guidelines. The common co-morbidities studied were diabetes mellitus, hypertension, cardiovascular disease, and malignancy.
Results: The incident number of patients studied was *n*=333, 33.3% female, 100% Caucasian, 47.7% >70years. In the categories of renal failure, 45.5% were in Stage 3, 25.6% in Stage 4, and 19.0% in Stage 5. The frequency of patients in the different categories included 73.3% chronic kidney disease, 9.3% haemodialysis (HD), 9.3% peritoneal dialysis (PD), and 8.1% renal transplants (TR). The frequency of renal replacement therapy (RRT) was 34.8% for both PD and HD, and 30.3% for TR. 46.8% (*n*=156) had diabetes, 75.7% (*n*=252) hypertension, 36.0% (*n*=120) ischaemic heart disease, 23.5% (*n*=78) congestive cardiac failure, 9.6% (*n*=32) peripheral vascular disease, 4.8% (*n*=16) cerebrovascular disease, 4.8% (*n*=16) malignancy. Overall, 73.8% of patients had a haemoglobin level above 11.0g/dL.
Conclusions: The prevalence rates of most co-morbidities coincide with those of other countries in Europe and USA. However, the prevalence rate of diabetes mellitus is higher than in most countries and that of diabetes in the renal replacement therapy group is even higher. The use of peritoneal dialysis in the dialysis population in Malta is high at 50%.

SP612 SLEEP APNEA SYNDROME IN HEMODIALYSIS PATIENTS. PRELIMINARY DATA

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Introduction and Aims: Sleep apnea syndrome (SAS) is a condition characterized by repeated episodes of apnea and hypopnea during sleep that lead to hypoxemia, hypercapnia, sleep disturbance and activation of the sympathetic nervous system. In patients undergoing hemodialysis (HD), the prevalence of SAS is four times higher than in the general population. The aim of the present study was to examine sleep parameters of HD patients that suffer from SAS.
Methods: 37 HD patients (23 men), suffering from SAS, participated in the study. The mean age was 57.4±12.3 years, the median duration on HD was 21.5 months (range: 3-218) and the mean Body Mass Index (BMI) was 26.8±5.6 kg/m^2. The night between two consecutive midweek HD sessions, the patients underwent an overnight polysomnography study with a "SOMNOscreen^{TM}" device (SOMNOmedics & co GmbH, Germany).
Results: Mean Apnea-Hypopnea Index (AHI) was 30±23.5 events/hour. Eleven patients suffered from mild SAS (5≤AHI<15) with a mean AHI of 8.8±2.8 events/hour, twelve patients from moderate SAS (15≤AHI≤30) with a mean AHI of 21.3±2.7 events/hour and fourteen patients from severe SAS (AHI>30) with a mean AHI of 54.1 ±21 events/hour. AHI correlated significantly with patients' BMI (*r=0.422, p<0.5*), but not with age and duration on HD. No statistically significant differences on AHI were observed between men and women. Of all apnea episodes recorded, 73.8% were obstructive, 14.5% mixed and 11.7% central.
Conclusions: The results of the present study indicate that, SAS in HD patients correlates with their BMI but not with their time on HD, neither with their age, in contrast to what has been reported from the general population, where SAS correlates both with BMI and age. Moreover, the patients' sex does not correlate with SAS and its severity. Finally, in our HD patients with SAS the recorded apnea episodes were predominantly obstructive, as recorded in the general population.This research has been co-financed by the European Union (European Social Fund–ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF)-Research Funding Program: Heracleitus II. Investing in knowledge society through the European Social Fund.

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SP613 DIALYSIS WITHDRAWAL AND THE IMPACT OF ADVANCED CARE PLANNING - A SINGLE CENTRE EXPERIENCE

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Introduction and Aims: Discontinuation of dialysis is a common cause of death in end-stage renal disease, especially with an aging dialysis population. Little data exists regarding predictors and length of survival in maintenance dialysis patients following dialysis withdrawal. Advanced care planning (ACP) was introduced in September 2010 in our trust to involve patients in the decision-making process as they approach end-of-life. Our main aim was to investigate duration of survival after cessation of maintenance dialysis and if there were any possible clinical correlates. We also looked at the impact of advanced care planning on dialysis withdrawal.
Methods: We performed a retrospective analysis on data collected from the Electronic Patient Record of all patients who died after dialysis withdrawal in our unit between April 2009 and November 2012.
Results: In total 262 dialysis patients died during this period of which 43(16.4%) died after dialysis withdrawal. In our cohort of 43 patients, dialysis withdrawal was attributed as first cause of death in 33% of patients and as associated cause in the remaining 67% of patients. The mean age at death was 72 ± 10. Majority (84%) were on haemodialysis and the rest were on peritoneal dialysis. 72% of patients were on maintenance dialysis for at least 2 years. In 69% the decision to stop haemodialysis was made during their hospital admission by the medical team. Mean days of survival after dialysis withdrawal was 8± 5 days. Survival in peritoneal dialysis patients was 10 ± 7 days, whereas in haemodialysis patients it was 8 ± 5 days. A high CRP was linked to a shorter survival after withdrawal of dialysis. 82% of patients who had ACP died in their place of preference compared to 65% of patients without ACP, although not statistically significant (p=0.438).
Conclusions: Survival post-withdrawal of dialysis had no significant clinical correlates.

ACP although still in its early days, seems to improve outcomes in patients who are approaching end of life. Further longitudinal studies on larger populations need to be performed to provide more information on the impact of ACP.

SP614 ADVANCE CARE PLANNING IN PATIENTS WITH END-STAGE RENAL DISEASE: WHAT IS MOST IMPORTANT TO THE PATIENTS?

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Introduction and Aims: Advance Care Planning (ACP) is a process of communication between patients, families, doctors and nurses, for the purpose of clarifying treatment preferences at end-of-life. Stopping dialysis is an option to be explored. The aim of the study was to know if they want to participate in decision-making process and if there is any situation in which they would want to stop dialysis because they considered it could no longer provide any benefit to their health.
Methods: Prospective qualitative study carried out on selected ESRD patients. An ACP facilitator with no prior relationship to the participants performed two semi-structured interviews with each patient, including their relatives if they preferred. We used inductive analysis to create an account of hope in the context of ACP that consisted of identifying and coding the transcribed text into themes that were synthesised to develop a cohesive conceptual description.
Results: From May to November 2012 fourteen ESRD patients (9 male and 5 female) were interviewed: seven patients on haemodialysis and seven on peritoneal dialysis, with an average age of 66 years. Two different interviews were performed with each patient, mean duration 31 and 35 minutes, respectively. They very much trust the doctors and nurses who care for them. Their hope is to receive a trasplant that allows them to recover an independent life. There is no information about the plan of care if a trasplant is not a real option or if dialysis treatment can't reach the target of maintaining a good quality of life. Patients would like to participate in decisions concerning their care and end-of-life. They want to keep on with dialysis treatment while their quality of life continues to be acceptable for them; that means being in a good mental frame of mind that allows them to recognize family and friends, being able to talk and understand others and, being independent in terms of walking or eating unaided. When they can't do these kind of things, patients would prefer to withdraw dialysis. Respecting end-of-life care, dying without pain and to be cared for at home-if it does not lead to a substantial burden for caregivers- are the most important points for them. Patients think that doctors doń t speak to them about end-of-life because they are focused on other aspects of care.
Conclusions: Patients with ESRD may benefit from ACP process because it allows them to share their opinions with doctors, nurses and relatives. Although there are great opportunities to talk with ESRD patients about end-of-life care -time spent in hospital, trust in doctors and nurses and patients' wishes to talk about it-, this is often not done. Some living conditions with severe cognitive impairment are unacceptable to ESRD patients: in these cases they would prefer to withdraw dialysis. Then they wish to receive care in order to relieve suffering or pain, at home if posible. ACP training for nephrology staff is currently inadequate. Grant: KRONIKGUNE.

SP615 SEROCONVERSION AND IMMUNOGENICITY AFTER HEPATITIS B VACCINATION IN HEMODIALYSIS PATIENTS

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Introduction and Aims: HBV infection is actually a worldwide disease among chronic hemodialysis patients;clinical trials regarding uremic patients undergoing HBV vaccination, have shown, comparing to general population, lower seroconversion rates (50-64% vs 90%).The aim of the study was to evaluate the seroconversion among two groups of hemodialysis patients exposed to two different HBV-vaccine schedules and to investigate if there were differences between patients.
Methods: The first group (A Group)of 99 patient, 63M and 36 F,on hemodialysis(HD) between 2003 and 2009;age was 56 +/- 17 y. These patients underwent a 3 times intramuscular injection (at 0-1-6 months from HD beginning) of HBVAXPRO 20 mg (Sanofi Pateur MSD) during HD sessions.The second group included 46 patients (B Group), staring HD in 2010, whose middle age was 60 +/- 10 y., 34 M and 12 F, who received also a three times intramuscular injection of HBVAXPRO, with the same schedule, but with an intradermal dose of 40 mg, at the end of the HD sessions.None of the patients was vaccinated before, nor treated with steroid.All patients had good nutritional parameters according to albumin and fats serum levels. The vaccine was a recombinant Saccharomices cerevisiae-derived HBV surface antigen adsorbed on aluminum hydroxyphosphate sulfate. Levels of anti-HBV antibodies were determined every 3 m., for at least 12 m.
Results: Antibodies levels determined at 3,6 and 12 m. after the vaccine schedule demonstrated a good response in 39 pts (41%), with an anti-HBs titre between 10 and 1000 IU/L and no response in 56 pts (59%), with anti-HB titre <10 IU/L. No differences between responders and non responders patients were found in age, sex, diabetes, inflammation markers, nutritional status and dialysis efficiency. In B group sufficient anti- HBs antibodies levels, i.e. between 13 and 139 IU/L, were achieved in 20 pts (43,3 %) after 6 months. No response was achieved (anti-HBs titre <10 IU/L) in 26 patients (56,6 %).No differences between A and B group pts were found in age, sex, diabetes, inflammation markers, nutritional status and dialysis efficiency. There were no differences in immunophenotyping of blood lymphocytes between R and R1 group patients and NR and NR1 group patients.A younger age alone seems to be related to a better response to vaccine schedule ($p<0.052$).
Conclusions: The poor response to the vaccine schedule in dialysis seems to be independent from doses, timing, site of injection, type of dialysis and lymphocytes Tsubsets.A protective response to vaccine schedule in this population could be achieved before starting dialysis, when patients are still in 3/4 CKD stage. Also using a vaccine with an adiuvant leeds to a better response. The stage of the CK disease and the vaccine schedule seem important, both for the efficacy and the long-term immune response. The soonest the vaccine is given (first stages of CKD), the more it will be effective.

SP616 IMPORTANCE OF DETECTION OF ANTIBODIES TO HCV CORE AMONG ANTI-HCV SCREENING NEGATIVE HEMODIALYSIS PATIENTS AT RISK OF OCCULT HCV INFECTION

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Introduction and Aims: Testing for HCV RNA in PBMC allows identification of occult HCV infection in a proportion of anti-HCV and serum HCV RNA-negative hemodialysis patients with abnormal liver enzymes (JASN2008). Antibodies HCVcore are detectable among anti-HCV-negative patients with occult HCV infection without renal disease. Up to now anticore has not been tested among hemodialysis patients to detect occult HCV.
Methods: To evaluate detection of antibodies HCV core and correlate to HCV RNA testing in PBMC for diagnosing occult-HCV infection in anti-HCV and serum HCV RNA negative hemodialysis patients with abnormal liver enzymes. 113 HD patients were studied. HCV-RNA was tested in PBMC by real-time PCR. Antibodies to HCV anti-core were assessed by recently developed ELISA.
Results: HCV RNA was detected in PBMC from 40/113 (35%)patients indicating occult HCV infection.Anti-core antibodies were detectable in 26(23%) HDpatients supporting HCV exposure. Overall, 56/113 (49%had either marker detectable: 10 were positive for anti-core and RNA in PBMC; 30 only positive for viral RNA in PBMC whereas 16 had anti-core alone. Anti-core detection iidentified 16/73 anti-HCV-screening-negative HD-patients with undetectable HCV-RNA in PBMC may have occultHCV infection. 24patients were re-tested after 12 months who remained anti-HCV-screening-negative, including 10 with and 14 without anti-core detectable baseline 4/14 anti-core-negative at baseline seroconverted. 30/113 reacted the anti-core assay at any time-point.
Conclusions: To evaluate detection of antibodies HCV core and correlate to HCV RNA testing in PBMC for diagnosing occult-HCV infection in anti-HCV and serum HCV RNA negative hemodialysis patients with abnormal liver enzymes 113 HD patients were studied. HCV-RNA was tested in PBMC by real-time PCR. Antibodies to HCV anti-core were assessed by recently developed ELISA.

SP617 AN ASSESSMENT OF THE QUALITY OF LIFE IN HEMODIALYSIS PATIENTS USING THE EuroQoL-5D QUESTIONNAIRE

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Introduction and Aims: Health related quality of life (HRQOL) indicators take into account the personal perception of health, and are proposed as an alternative for efficacy indicators in medical and therapeutic decision making. Hemodialysis patients have an impairment in their HRQOL when compared with the general population because of their comorbidity. In such patients,renal replacement therapy improves survival, but not necessarily the quality of life. Aims: Evaluate the HRQOL in a sample of patients on hemodialysis (HD) in a satellite HD center using the EuroQol-5D tool and identify sociodemographic and biomedical variables that can affect it.
Methods: Cross sectional study of 183 prevalent HD patients (mean age 63 ±13.5 years, 66.7% male, 51.9% diabetics, hemodialysis time 40.06 ± 36.8 months,). The variables included in the study were: etiology of CKD (DM), obesity (BMI> 30), age, sex and time in HD. EuroQol-5D questionnaire was used consisting of five dimensions (mobility, self-care, daily activities, pain/discomfort and anxiety/depression) and 3 includes items each, that define three levels of severity. The combination of the

responses to the five dimensions allows obtaining an index that express the degree HRQOL.
Results: Measuring HRQOL shows the worst index in diabetic patients (P =0.000), especially in the dimensions mobility (p: 0.000), personal care (p =0.003), and daily activity (p: 0.002). No differences in rates of pain/ discomfort and anxiety/depression were observed. Patients over 65 years had worst ratings in the dimensions of mobility (p: 0.004), personal care (p =0.000), daily activity (p =0.000) and pain/ discomfort(p =0.045), showing no differences in valuation of anxiety depression. Women showed worse quality of life (p =0.002) in each dimension analyzed. Obesity and longer time on dialysis did not differ regarding HRQOL.
Conclusions: -TheEuroQol-5D questionnaire gives ususeful information quickly and easily on the assessment of the quality of life in patients on hemodialysis. -In our study, DM, elderly and female are the variables that condition worse perception of quality of life.

SP618 DENTAL HEALTH AND ALL CAUSE AND CARDIOVASCULAR MORTALITY IN HEMODIALYSIS PATIENTS: A PROSPECTIVE MULTINATIONAL COHORT STUDY

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Introduction and Aims: Oral disease may be associated with increased risks of death due to inflammation or as a general indicator of healthcare practices. We evaluated the association between dental status and the risk of all-cause and cardiovascular mortality in adults on hemodialysis.
Methods: ORAL-D is an ongoing multinational prospective cohort study of consecutive adults on hemodialysis in 75 outpatient clinics selected randomly from a collaborative dialysis network in Italy, Hungary, Poland, Argentina, Portugal, France and Spain. A dental surgeon evaluated dental status by using the DMFT (decayed, missing, filled, permanent teeth) score. Quality of dental health was defined based upon WHO criteria as low, moderate and high DMFT scores of ≤2.6, 2.7-4.4 and >4.4. We assessed survival at 12 months using centralized mortality data. We conducted analyses using Cox regression controlling for age, gender, previous cardiovascular events, income status, clinical performance measures, dialysis prescription and performance indicators, and depressive symptoms.
Results: 4720 hemodialysis patients in the participating clinics received a complete evaluation of their dental status and completed follow up. Median follow up was 19.9 (17.0 to 28.0) months and 516 (11%) died during follow up. Dental health (DMFT scores) had uncertain associations with all-cause or cardiovascular mortality.
Conclusions: Dental health has uncertain associations with all-cause and cardiovascular mortality in patients on hemodialysis. ORALD will be completed by end of 2013.

SP619 OPPORTUNISTIC PATHOGENS CARRIAGE IN HEMODIALYSIS PATIENTS: A SINGLE-CENTER STUDY

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Introduction and Aims: Colonization with Gram-positive cocci is a recognized risk factor for subsequent bacterial infections in hemodialysis (HD) patients. Along with coagulase-negative staphylococcus, Staphylococcus (S) aureus is one of the most common causes of serious bacterial infections in HD patients. The aim was to study features of the opportunistic pathogens carriage in HD patients with subsequent evaluation of their infectious morbidity.
Methods: This study was an observational, prospective, epidemiological tracking, performed in 1.5 years by microbiological and clinical examination. The study included 79 patients with the end stage renal failure (ESRD) on HD from dialysis single-center of Ukraine. 44 (55.7%) patients were men, age from 23 to 77, average 48.4 ± 4.63 years and the most common cause of ESRD was glomerulonephritis (47 patients, 59.5%). Arteriovenous fistulas (AVF) were used as vascular access in 100% of the patients. Central venous catheter (CVC) at dialysis initiation was used in 32 patients. The microorganisms isolation was carried by seeding swabs from the nose, pharynx and skin around the AVF out in conventional culture media.
Results: The most common isolated microorganisms were Gram-positive cocci (80.2%, p < 0.01). Fungi were isolated from 17.7 % positive cultures. Microbiological results are shown in Table. Cultures obtained in dialysis patientsThe 26 (68.4±4.75 %) methicillin-resistant S. aureus (MRSA) strains were identified in 23 patients. Vancomycin-resistant (VRS) S. aureus and S. haemolyticus carriers were 28 (35.4%) and 27 (34.2%) patients, respectively. Pharyngeal colonization of vancomycin-resistant enterococci (VRE) was found in 8 (10.13%) patients. During the observation 14 bacterial infections episodes among patients were detected (12 pneumonia, 2 endocarditis, 1 osteomyelitis). Also, we analyzed risk factors for colonization MRSA/ VRS and bacterial infections in HD patients (age, gender, reason for ESRD, type of vascular access in dialysis initiation, comorbidities). Patients with a history of CVC using (n = 32) showed a higher rate carriers MRSA / VRS (87.5% vs. 36.2%, p < 0.01) and cases of bacterial complication (25% vs. 8.5%, p < 0.05) than without it (n = 47). This result was only one positive conclusion in the study.
Conclusions: This study demonstrated role vascular access and the relevance of MRSA / VRS screening in HD patients and should alert the physicians that carriage is associated with poor clinical prognosis despite a lack of overt clinical signs of infection.

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Isolated microorganisms	Nasal swab 64 positive; 15 negative	Pharynx swab 141 positive; 0 negative	Skin swab 32 positive; 47 negative
S. haemolyticus	33	10	26
Str. α-haemolyticus	0	57	0
S. aureus	24	8	6
E. faecalis	0	18	0
E. faecium	0	6	0
Fungi	3	39	0
Others	4	3	0

SP620 INTENSIVE HEPATITIS B VACCINATION IN HEMODIALYSIS PATIENTS. A SINGLE CENTER EXPERIENCE

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Introduction and Aims: To study the efficacy of intensive hepatitis B virus (HBV) vaccination in hemodialysis patients of our unit.
Methods: Twenty-six (26) hemodialysis patients were studied (15 male), with mean age 69,6 years (47-83), and baseline antibody titer against surface antigen of HBV (anti-Hbs) less than 10mIU/ml. Five doses (months 0,1,2,3 και 6) of hepatitis B vaccine (Engerix B®) of 40 mcg were infused intramuscularly on each patient. One month after the last vaccination dose, immunological response was measured. Depending on anti-Hbs titer, patients were divided in three groups: A: with anti-Hbs<10 mIU/ml., B: with anti-Hbs between 10 and 100 mIU/ml., C: with anti-Hbs>100 mIU/ml (goal titer). Group B and C patients were defined as responders. Two weeks later, group A patients received two additional vaccination doses, in ten days interval. Group B patients (responders with low titer) received one additional dose. In these two groups anti-Hbs titer was measured again. Demographic and laboratory data, dialysis method, residual urea clearance and Urea Reduction Ratio were recorded. All above were analyzed for probable association with anti-Hbs titer.
Results: Responders' rate was 61,5% (n=16), and after the additional doses it was increased in 65,4% (n=17). Initial and final rates of goal titer were 38,5% (n=10), and 56% (n=14) respectively. Younger patients had significantly higher anti-Hbs titer (p=0,008). Residual urea clearance above 2ml/min was associated to a trend towards higher anti-Hbs titer (p=0.055).
Conclusions: Intensive HBV vaccination in hemodialysis patients of our unit resulted in satisfying rates of immunological response. Additional vaccination improved anti-Hbs titer in responders with low titer.

SP621 QUALITY OF LIFE IN ELDERLY PATIENTS IN ESRD AND DIALYSIS: A NEW BIOCHEMICAL APPROACH NEUROPSYCHOLOGY

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Introduction and Aims: In the medical field we are witnessing the gradual aging of the general population and with it, a statistically significant increase in age-related pathologies . In particular, we are creating the conditions to speak of a real emergency nephrology in patients older than 75 years. These patients have an increase of comorbidities such as cardiovascular disease, diabetes, cancer, but also social difficulties, loneliness, poverty and depression. It appears, therefore, a need in the context of primary care and even more in the specialist to have a standardized way to approach the treatment of this type of patient in full respect of the right of every individual to have the best care and a life and dignified death. Therefore, a biochemical approach and psychodynamic could support the clinician who has to deal with this type of patient.
Methods: The study population is divided as follows: three patient groups of 10 subjects each (4 M, 5 F) with CKD stage V . Group A patients in conservative treatment group B hemodialysis patients, group C patients on peritoneal dialysis. Each of them was given the CGA (Comprehensive Geriatric Assessment). For each subject was

performed the assay of dopamine, serotonin, adrenaline, at time T0 (clearance ≥ 15ml/min), the T1 (clearance ≤ 10 ml / min) and T2 (after 1 week of treatment replacement / to 1 week after the decision to continue conservative therapy) T3 (after 1 month of starting treatment replacement / to 1 month from the choice of continuing conservative therapy). The data were evaluated by statistical analysis.
Results: The correlation of data bio-humoral and score the test CGA showed the presence of anxiety depression in 40% of the study population. In patients on dialysis outside the body has shown a lower percentage of psycho-physical rehabilitation and social attitudes cyclothymic correlated with higher levels of adrenaline and noradrenaline. Patients treated conservatively and DP have levels of serotonin, dopamine and norepinephrine comparable to healthy controls.
Conclusions: Conservative therapy and home dialysis (PD) represent a better approach to the ESRD population, due to the lower socio-psychological and an early program of physical and social rehabilitation compared to extracorporeal dialysis. The correlation between psychological data and biohumoral allows to highlight a better clinical approach to improve the quality of life of these patients.

SP622 CHARACTERIZATION OF PATIENTS WITH PREVIOUS KIDNEY TRANSPLANTATION ON HEMODIALYSIS

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Introduction and Aims: The number of kidney transplant patients living on hemodialysis after graft failure is increasing. This is due to expansion of both cadaveric and live programs worldwide. At our center, as the total number of live-related kidney transplant recipients is approaching 2000 cases, increasing numbers with failed grafts enter hemodialysis service. Hereby, we study characters of this group of patients on hemodialysis.
Methods: This study was performed at hemodialysis unit of the urology and nephrology center, Mansoura University, Egypt. A retrospective analysis was performed. Data of hemodialysis patients with previous kidney transplantation were collected and compared to those without prior kidney transplantation.
Results: Out of 104 hemodialysis patients, 41 patients had graft failure. Of them, 2 had received 2 renal grafts. Previously non-transplant patients were 63 patients. Both groups were comparable regarding age, sex and original kidney disease. There was no significant difference between both groups relative to the occurrence of ischemic heart disease, hypertension, diabetes mellitus, pulmonary disease, cerebrovascular disease, myopathy, peripheral neuropathy, bone disease, parathyroidectomy, acquired renal cystic disease, EPO/iron therapy, vascular access used, achieved KT/V and hemoglobin, albumin and PTH levels. Duration of dialysis, prevalence of HCV infection, serum ferritin were significantly higher among previously transplanted patients.
Conclusions: Previously kidney transplant recipients generally do similar to other patients on hemodialysis. However, higher serum ferritin among them may be partly related to the chronic inflammatory state induced by previous transplantation.

SP623 OCCULT HEPATITIS B VIRUS PREVALENCE IN DIALISIS COHORT OF UKRAINE. THE INFORMATIVENESS OF DETERMINING ANTIBODIES TO HEPATITIS B VIRUS CAPSID ANTIGEN

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Introduction and Aims: Despite of activities for interception the transfer of HBV, the patients with end-stage renal feature (ESRF) on hemodialysis (HD) have high probability of hepatitis B virus infection. Our studies revealed the markers of old or active HBV-infection in 55.8% out of examined dialysis population of Ukraine and this indicated on threatened epidemic situation. Among reasons of HBV-infection spreading in HD department is existence of occult (latent) hepatitis B virus infection which was not diagnosed in time. Occult HBV-infection is characterized by presence of DNA-HBV without hepatitis B surface antigen (HBsAg). The aim of this study was a determining of latent HBV-infection prevalence in dialysis population and examining the role of anti-HBc test in the diagnostics of occult HBV-infection.
Methods: In some administrative areas of Ukraine 1080 ESFR patients on HD were investigated on presence of HBV-infection serological markers by ELISA (enzyme-linked immunosorbent assay). Subsequently 100 random samples of serum with HBV-infection markers were examined on DNA-HBV by real-time PCR (polymerase chain reaction) analysis.
Results: In 602 (55,8%) out of 1080 investigated patients on HD the markers of old or active HBV-infection were detected. In examined population HBsAg was detected in 166 (15,4%), and anti-HBc in 570 (52,8%) patients. In most cases (436 patients or 40,4% out of examined population) antibodies to bovine antigens was isolated. Anti-HBc in combination with HBsAg was identified in 134 (23,5%), in combination with anti-HBe in 404 (70,9%), with IgM anti-HBc in 269 (47,2%), and with HBeAg in 7 (1,2%) patients. PCR analysis of 100 blood serum samples with HBV-infection serological markers identified the HBV DNA in 49 patients. Specific HBV DNA was revealed in combination with HBsAg in 33 samples (among 54 HBsAg-positive serums), including 35 patients with anti-HBe (out of 55 anti-HBe-positive serums) and 25 patients with IgM anti-HBc (out of 39 IgM anti-HBc-positive serums). HBV DNA was detected in 45 anti-HBc-positive samples (out of 84 anti-HBc-positive serums). HBV DNA was identified in serum of 16 patients with isolated anti-HBc (with negative HBsAg tests). As result the detection rate of occult HBV-infection revealed by HBV viremia was 16% of examined population. Latent HBV-infection rate was 19% of anti-HBc-positive patients with ESRFon HD. The anti-HBc analysis may be useful for detecting the patients which needs more rigorous examination on HBV-DNA.ALT activity is not correlated with the HBV-DNA and HBsAg presence.
Conclusions: Occult HBV-infection has high prevalence among Ukrainian patients on HD and absence of HBsAg in blood is not ensuring the reliable exclusion of HBV-infection. The PCR analysis of HBV DNA in dialysis population, especially with isolated anti-HBc, permits to detect of latent HBV-infection and to decrease of the HBV-infection risk in HD departments.