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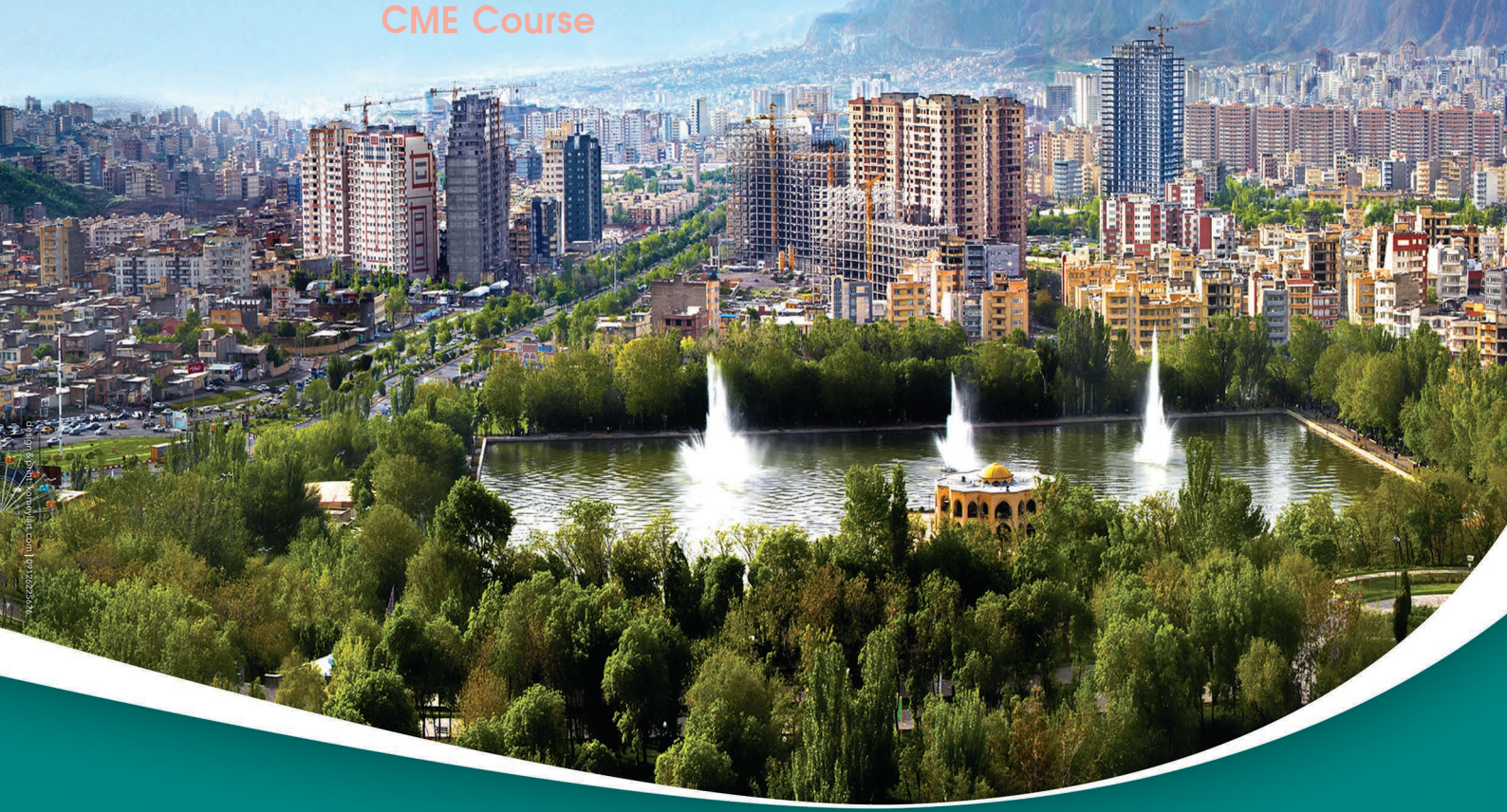
Abstracts



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IJKD IRANIAN JOURNAL OF KIDNEY DISEASES

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The Iranian Journal of Kidney Diseases (IJKD), a peer-reviewed journal in English, is the official publication of the Iranian Society of Nephrology. The aim of the *IJKD* is the worldwide reflection of the knowledge produced by the scientists and clinicians in nephrology. Published every 2 months, the *IJKD* provides a new platform for advancement of the field. The journal's objective is to serve as a focal point for debates and interchange of knowledge and experience among researchers in a global context. Original papers, case reports, and invited reviews on all aspects of the kidney diseases, hypertension, dialysis, and transplantation will be covered by the *IJKD*. Research on the basic science, clinical practice, and socio-economics of renal health are all welcomed by the editors of the journal.

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ABSTRACTS

17th International Congress of Nephrology, Dialysis, and Transplantation

101 Acute Renal Allograft Rejection, Immunohistochemical Staining of Mononuclear Inflammatory Cells and Histopathologic Pattern

Taheri Diana,[1] Dolatkhah Shahaboddin,[2] Aghaaliakbari Farshad,[3] Beinabadi Yasamin,[4] Atapour Abdolamir,[5] Shahidi Shahrzad[5]

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Introduction. Cellular infiltration of mononuclear inflammatory cells plays a significant role in acute rejection of renal allograft rejection. The aim of this study was evaluation of the correlation between immunohistochemical and histopathologic changes during renal allograft biopsies with the diagnosis of acute rejection.

Methods. Renal allograft biopsies which had been diagnosed as acute rejection including T cell mediated rejection (TCMR) and antibody mediated rejection (TCMR) in our center during years 2015 to 2018 were included in this study. All slides were re-evaluated for type of rejection due to Banff criteria and immunohistochemical staining for CD20, CD138, CD3, CD8, CD4, and immunofluorescence for C4d performed on parafin embedded specimens. All data were analyzed using SPSS 20 software and relationship between cellular immunohistochemical infiltration and histopathologic changes were evaluated.

Results. There were fifty one patients with the diagnosis of acute renal allograft rejection including TCMR (58.2%), ABMR (21.56%), and other diagnoses (19.62%). No differences were found between groups regarding expression of CD20 ($P > .05$), CD3 ($P > .05$), and CD4 ($P > .05$), but CD138+ cells were more present in ABMR group ($P < .05$) and CD8+ cells were more present in TCMR group ($P < .05$). No obvious relationship was seen betweenpositive immunohistochemical staining of cellular markers of CD20, CD3, CD138, CD4, CD8, and glomerulitis, tubulitis, intimal vasculitis, and inflammation in TCMR group.

Conclusion. Our data revealed that comparing cellular infiltration of TCMR and ABMR, CD138+ cells are more present in ABMR and CD8+ cells are dominantly seen in TCMR. But in contrast to previous studies, assement of TCMR biopsies showed no significant correlation between type of mononuclear inflammatory cells infiltrated in tissue and histopathologic appearance of the biopsy.

102 Comparative Study Between Mycophenolate Mofetil and Cyclosporine Following Rituximab in the Management of Steroid-resistant Nephrotic Syndrome

Assadi Farahnak

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Introduction. Rituximab (RTX) plus mycophenolate mofetil (MMF) and RTX plus cyclosporine A (CsA) are currently used to treat children with steroid-resistant nephrotic syndrome (SRNS). Whether RTX/MMF would result in better clinical outcomes than RTX/CsA is not clear.

Methods. We randomly assigned 240 children with SRNS in a 1:1 ratio to either receive MMF 0.5 g/m^2/d (n = 104) or CsA (3 mg/kg/d (n = 106) for 12 months after weekly injections of RTX (375 mg/m^2) for 1 to 4 weeks. The primary and secondary endpoints were relapse-free survival rate and median time to first relapse, respectively.

Results. Baseline characteristics were similar between the 2 groups. At the baseline, all patients expressed complete B cell reconstitution (CD19 + B cells > 1% of the total peripheral blood lymphocytes) and received RTX injections. One year relapse-free survival were 87% for RTX/MMF and 65% for RTX/CsA, which was a statistically significant different in favor of RTX/MMF ($P > .05$). Median relapse-free survival was longer for patients who received RTX/MMF (9 months) compared with those who received RTX/CsA (5 months) ($P < .01$). The median time to B cell reconstitution was also longer in RTX/MMF patients (8.6 months) than in RTX/CsA patients (5.2 months) ($P < .04$). There was a tendency towards a higher risk of relapse among children younger than 2 years of the entire cohort (HR = 2.01, 0.56 - 7.82).

Conclusion. MMF maintenance therapy significantly prolongs relapse-free survival rate following RTX induction in children with SRNS.

103 The Effect of Montelukast on UTI Symptoms

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Introduction. Pyelonephritis is one of the most common side effects of urinary tract infections in children, with several complications. Montelukast is an anti-inflammatory drug that has a protective effect on the kidney's tissue. Considering the role of inflammation in pyelonephritis as well as the Kidney protective effects of Montelukast, in this study; we studied the effects of Montelukast on children's pyelonephritis.

Methods. In this study, 100 children with pyelonephritis were divided into two groups, case (n = 50) and control (n = 50). Patients in both groups received routine antibiotic therapy and in the case group, Montelukast (5 mg/d, oral) was also prescribed (duration of treatment was 14 days). Finally, the clinical features of patients were evaluated and compared in two groups.

Results. The mean age (± SEM) in case and control group was 7.2 (± 0.43) and 7.18 (± 0.43) years, respectively. Analysis of the results showed that receiving Montelukast significantly reduced the duration of fever ($P < .001$), dysuria ($P < .001$), abdominal pain ($P < .001$), and urgency ($P < .05$).

Conclusion. Montelukast lead to rapid improvement of clinical features in children with pyelonephritis and it can be used as an effective auxiliary treatment in these patients.

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Importance of Mean Platelet Volume in Predicting Cardiac Mechanics Parameters and Carotid-intima Media Thickness in Children With ESRD and Comparison With Healthy Children

Gheissari Alaleh, Dehghan Bahar, Ghaed-Sharafi Bijan, Abedini Amin

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Introduction. Cardiovascular disease (CVD) is the major cause of death in children with ESRD. Echocardiography and Doppler ultrasound are useful devices for diagnosing cardiovascular abnormalities in such patients. However, they are expensive, difficult to perform as a routine and not available in many centers. Therefore, finding a more accessible and inexpensive method for CVD evaluation biomarkers is needed. The aim of this study was to evaluate the relationship between mean platelet volume (MPV) as a routine hematological parameter with cardiac mechanics characteristics in children with ESRD.

Methods. Fortytwo children under dialysis and 60 age- and sex-matched healthy subjects as control group were enrolled in the study. Carotid-intima media thickness (CIMT) and echocardiographic parameters were measured in both groups. In addition, hematological and biochemical variables were evaluated in blood samples of participants.

Results. MPV was significantly higher in patients than in controls. CIMT, left ventricular mass index (LVMI), end diastolic diameter, strain rate, and global longitudinal strain were significantly different between the two groups. MPV was positively correlated with LVMI and inversely with ejection fraction. In ROC curve analysis, the area under the ROC curve (AUC) values for MPV in predicting left ventricular hypertrophy (LVH) and abnormal CIMT were 0.65 ($P > .05$) and 0.53 ($P > .05$); respectively. MPV was correlated with some cardiac abnormalities in children with ESRD.

Conclusion. However, it could not show appropriate predictive values in diagnosing LVH and subclinical atherosclerosis. Further studies with prospective design could shed more light in this topic.

105 Evaluation of Ganciclovir Resistance Mutations in Cytomegalovirus UL97 Gene in Kidney Transplant Patients Treated with Ganciclovir

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Introduction. Cytomegalovirus (HCMV) is usually associated with asymptomatic infections in immunocompetent hosts, but is the leading cause of morbidity and mortality in recipients of solid organ transplant. Currently, ganciclovir (GCV) is a selective drug for treating CMV disease in renal transplant recipients. Long-term treatment may result in the emergence of a drug-resistant virus. The majority of resistant ganciclovir strains mutate in the UL97 gene. The most common mutations in clinical specimens were found in codons 460 (M460V), 520 (H520Q), 594 (A594 V/I), 595 (L595S) and 603 (C603W). This study was performed to determinate the mutations of UL97 gene in kidney transplant recipients of Emam hospital, Urmia university of medical sciences.

Methods. During 2013 to 2016, 823 serum samples of kidney transplant recipients were obtained from renal transplant center of Emam Hospital, Urmia university of medical sciences, Iran. The DNA was extracted and nested PCR was performed to detect HCMV viremia. UL97 gene amplicons obtained from 43 viremic patients who received GCV treatment were sequenced for mutations. The sequences were analyzed using BioEdit software and compared to the AD169 strain. Occurrence of mutations and their association with drug resistance were investigated.

Results. Analysis of sequences revealed known mutations associated with GCV resistance in codons A594V (2.3%) and P521L (2.3%) in two transplanted patients. D605E mutation was observed in 8 patients (18.6%) and novel mutations detected in position T438M (2.3%), I474V (2.3%), and N492S (2.3%).

Conclusion. In this study, was observed two UL97 mutation associated GCV resistance. The dominant mutation occurred in codons D605E. This mutation has not been related to GCV resistance and its frequency is higher in Asian countries than Europe and may be regarded as another natural sequence variant. The effect of novel mutations on resistance to GCV has not been evaluated by other studies using marker transfer or phenotypic tests.

106 Neutrophil Gelatinase-associated Lipocalin (NGAL) as a predicting factor in patients Diabetic Nephropathy

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Introduction. Diabetic nephropathy (DN) is a major complication of diabetes Mellitus. Early detection of DN and interventional methods can slow its progression and improves patients' outcome. Albuminuria has been accepted as the earliest marker for DN development. Serum and urine Neutrophil Gelatinase-associated Lipocalin (sNGAL, uNGAL) as a marker of tubular damage might become useful biomarker for early detection of renal involvement in diabetic patients. The aim of this study is to assess the relationship between the serum and urine levels of NGAL and disease severity in patients with type 2 diabetes mellitus.
Methods. In the present cross sectional study we evaluated the levels of NGAL in serum and urine in 148 patients with type 2 diabetes mellitus categorized into three groups (50 diabetics with normoalbuminuria, 58 diabetics with microalbuminuria, and 40 diabetics with macroalbuminuria), and 50 control subjects.
Results. All diabetics with albuminuria showed increased sNGAL values with respect to normoalbuminurics and control individuals ($P < .01$). Serum NGAL increased in parallel with the severity of renal disease, approaching the highest levels in patients with overt diabetic nephropathy. The best cut-off point of sNGAL for macroalbuminuric state was 225.8 ng/mL with a specificity of 74 % and sensitivity of 70%. Urine NGAL showed significantly elevated level only in diabetics with macroalbuminuria compared to other diabetics and control subjects ($P > .05$).The best cut off point of uNGAL for macroalbuminuric state was 71.4 ng/mL with a sensitivity of 60% and specificity of 72%.
Conclusion. Serum NGAL increases in diabetic patients with the appearance of albumin in urine, so that its level clearly correlates with severity of DN, while uNGAL increment is observed only in overt albuminuria. Furthermore Serum and urine NGAL measurement could be a useful, noninvasive, easily available test for the evaluation of renal involvement in the course of diabetes.

107 Podocin Gene Polynorphisms in Steroid-resistant Nephrotic Syndrome Patients

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Introduction. Podocin is an important component of the slit diagrams of podocytes. It plays a vital role for keeping glomerular filtration barrier and any mutations in its gene (NPHS2) are associated proteinuria and steroid-resistant NS (SRNS).
Methods. In the present study, we studied the whole exons of NPHS2 gene in a group of adults with SRNS in North-west of Iran. Thirty-six SRNS cases and 71 healthy controls were studied using polymerase chain reaction (PCR) and direct sequencing.
Results. We could not find previously-reported risk polymorphisms in these patients. However, three polymorphisms Pro271Leu (2.7%), Ser96Ser (5.5%), and Leu346Leu (11.1%) were identified in patients (n = 7) with SRNS patients with focal segmental glomerulosclerosis (FSGS) histopathology. Our patients were in their third decade of life.
Conclusion. The result showed that the patient's age is more important than NPHS2 mutations for predicting adult-onset SRNS. In conclusion, podocin related mutations are not too much associated with SRNS in adults.

108 Indications of Desmopressin (DDAVP) Prescription in Hyponatremia to Prevent Rapid Correction, When to Give When Not to Give

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Introduction. Hyponatremia is the most common electrolyte abnormality encountered in hospitals. Due to its complex pathophysiology, management of this condition may be challenging and associated with poor clinical outcomes. Rapid correction of plasma sodium (PNa) in chronic and profound hyponatremia may result in central pontine/extrapontine osmotic demyelination (ODS). Prescribing desmopressin (DDAVP) in addition to close monitoring has been suggested to prevent ODS in high-risk patients. However, there is no consensus about the indications to use DDAVP. Current methods of DDAVP prescriptions include: 1. not considered, 2. reactive, 3. Proactive, and 4. rescue.

Methods. In this retrospective study, electronic charts of 340 patients with moderate to severe hyponatremia (symptomatic or at high risk of developing ODS) were reviewed. PNa at presentation, urine osmolality, the PNa correction rate, time of nephrology consult (if requested), DDAVP prescription, justification of its usage, and its influence on the length of hospital stay were examined.

Results. 105 patients with severe and 235 patients with moderate hyponatremia were included. DDAVP was prescribed in 101 patients (59% of severe and 16.6% of moderate hyponatremia). Low urine osmolality suggestive of no ADH action were observed in 35.6% of patients who received DDAVP. Twenty patients showed signs of non-suppressible ADH action. In 6.8% patients with chronic hyponatremia, DDAVP was never considered. The nephrology team was consulted in 317 (93.2%) patients and recommended DDAVP use with proactive, reactive, and rescue approaches in 39, 42, and 20 patients; respectively. Four patients developed clinical and radiologic evidences of ODS.

Conclusion. To prevent rapid PNa correction, proactive DDAVP prescription is appropriate in severe considered appropriate and chronic hyponatremia when intrinsic ADH is effective. In moderate hyponatremia, close monitoring of PNa correction and a "reactive method of DDAVP" prescription is more appropriate. Improper DDAVP prescription resulted in a prolonged hospital stay in 37.8% of patients.

109 Prevalence and Treatment of Acute Antibody Mediated Rejection in Renal transplantation Recipients, A Single Center Study

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Introduction. Acute Antibody Mediated Rejection (AMR) is one of the most important causes of early allograft loss in kidney transplantation. It develops in about 7% of renal transplant recipients. This study was done to evaluate the prevalence, risk factors, and response to treatment of AMR.

Methods. This study was a descriptive-comparative cross sectional study. The study population included all patients who had received kidney transplantation in Shariati hospital between 2014 to 2017.

Results. A total number of 374 cases of renal transplantation recipients were studied in this time period. The prevalence rate of acute AMR was 4.8%. We had 15, 2, and 1 cases of 1st, 2nd, and third renal transplantation recipients; respectively. The mean age was 43.2 ± 16.1 years. The male to female ratio was 5 to 13. The mean of follow up period was 6 months. The mean time to AMR was 14 ± 4 days. Overall, the response to treatment was 77.8%. The treatment protocol included IVIG alone, IVIG with plasmapheresis, IVIG with rituximab.

Conclusion. Totally, one out of 20 renal transplantation recipients experienced AMR that has response to treatment in about 3/4 of cases. Type of treatment had no effect on response to treatment. Incidence of acute AMR was more frequent in second and third renal transplantation recipients.

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Comparision the Effects of Vantris and Deflux in Treatment of Vesico Uretral Reflux in Children

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Introduction. Vesicoureteral reflux and its correlated complications is a common problem in childhood, therefor subureteral injection of bulking agent is a noninvasive and safer, at the same time a new method. The goal of this study is avaluation the effects of vantris and Deflux on pediatric VUR.

Methods. 98 patietns with mean age of 5.74 ± 2.25 years reffered to Motahhary hospital with moderate to severe VUR between 2017 to 2018 included in this study. Inclusion criteria were: VUR was unilateral in 49 patients and bilateral in 59 comprising 150 RRU. Pre-operation avaluation consist of: blood chemistry, urine analysis and culture, ultra sound scan, voiding cystoureterogram (VCUG), and dimercaptusuccinic acid renal isotope scan (DMSA). Patients underwent general anesthesia, and bulking agents were injected by 2 separate surgeons. Evaluation after injection included: urine analysis and culture, ultra sound scan after 1 month, and; VCUG, urine analysis, culture, and ultra sound scan after 6 months were done.

Results. 59 (73.3%) RRU of deflux and 55 (73.3%) RRU of vantris has been treated after 6 months of injection, which was not statistically meaningful. Respectively, in 1 and 4 patients of vantris and deflux VUR has been corrected after 2 procedure. For 8 patients DTPA scan was done 4 for each group, 2 of them were stenotic stenosis, and 6 of them were non obstructive stenosis. One of each group was needed stent. Repectively in vantris and deflux group reprted, UTI (13.3%, 6.7%), urgency (16%, 4%), urge incotinency (10.7%, 1.3%), suprapubic pain (10.7%, 1.3%), hydronephrosis (10.7%, 1.3%); that was statistically meaningful ($P < .05$), of course complications 6 months later is the same.

Conclusion. Our results does not show meaningful different between 2 groups with a view to correction of VUR, but rate of complicatios were higher in vantris group.

111 Prevalence of Hypertension in 1247 Children with CKD, a Report from the First Iranian Pediatric CKD Registry

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Introduction. CKD is increasingly recognized as a public health problem around the world. High blood pressure is both an important cause and effect of CKD and affects a large portion of CKD patients, increased risk of developing cardiovascular disease, such as left ventricular hypertrophy (LVH) and increased risk for neurocognitive impairment. Despite the importance of blood pressure (BP) control in pediatric CKD, hypertension is known to be underdiagnosed and undertreated. CKD has been suggested to affect 15 – 74.7 children per million globally. The aims of study were to determine the prevalence and distribution of high BP in 1247 pediatric patients with CKD, and to compare the prevalence of hypertension in children who underwent renal replacement therapy (RRT) with those on conservative treatment.

Methods. This cross-sectional study was carried out from 1991 - 2009. The data collection was based on information in the Iranian Pediatric Registry of CKD (IPRCKD) core data set. The inclusion criteria of the study were: 1. estimated creatinine clearance (eCCI) ≤ 75 mL/min/ 1.73m^2 body surface area according to Schwartz's formula for at least 3 months, 2. age < 19 years at the time of registration. Childrens' BPs were classified according to the National High Blood Pressure Education Program (NHBPEP) Fourth Report on the diagnosis, evaluation, and treatment of high BP in children and adolescents. BP readings < 90th percentile are categorized as normotensive, those ≥ 90th and < 95th percentiles as prehypertensive, and those with systolic and/or diastolic BP over the 95th percentile was defined as hypertensive. The presence of hypertension was defined as having hypertensive range BP or as self-reported hypertension plus current treatment with antihypertensive medications. All the Iranian pediatric nephrology units potentially involved in caring of children and adolescents was invited to report index cases. The patients were categorized into those with CKD classification described by the Clinical Practice Guidelines of the National Kidney Foundation's Kidney Disease Outcomes Quality Initiative (KDOQI guidelines) at CKD stages 2–5. Stages from 2 to 4 were designated as a preterminal CKD, while CKD Stage 5 ESRD was defined as either GFR < 15 mL/min /1.73m^2 or a need for the initiation of RRT by dialysis or transplantation. For children < 2 years old, the level of loss of renal capacity in each phase of the KDOQI rules was extrapolated contemplating the reference estimations of GFR in children < 2 years.

Results. From January 1991 to December 2009, 1247 children were registered (662 boys, 585 girls, male/female ratio: 1/1). The mean age at

registration of patients was 7.69 ± 4.72 years; range 3 months to 18 years. At the entry into the registry, 41 (3.28%) children were in CKD Stage 2, 94 (7.54%) in CKD Stage 3, 176 (14.11%) in CKD Stage 4, and 936 (75.06%) were in CKD Stage 5. Of 310 children with CKD in conservative group, information on blood pressure in 11 patients was not available. Of the 299 remaining patients, 131 (43.81%) had hypertension. Of 537 children with CKD in hemodialysis group, information on blood pressure in 11 patients was not available. Of the 526 remaining patients, 412 (76.73%) had hypertension. Of 182 children with CKD in CAPD group 104 (57.1%) and 218 in transplant group158 (72.5%) had hypertension, respectively. The prevalence of hypertension was highest in ESRD group compared to the conservative group (69% versus 44%; $P < .001$).

Conclusion. Our survey identified a high prevalence hypertension in pediatric CKD patients. These patients remain at risk for target organ damage. Children with ESRD have highest prevalence of hypertension compared to conservative management group. These findngs underscore the urgent necessity to develop novel strategies for screening programmes, early detection, prevention and treatment of hypertension and CKD.

112 Acetazolamide Adjunctive Therapy for Treatment of Bartter Syndrome

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Introduction. Bartter syndrome is a rare hereditary salt-losing tubulopathy caused by mutations of several genes in the thick ascending limb of Henle's loop, characterized by polyuria, hypokalemic metabolic alkalosis, growth retardation and normal blood pressure. Cyclooxygenase inhibitors, potassium-sparing diuretics and angiotensin-converting enzyme inhibitors are currently used to treat electrolytes derangements, but with poor response. Whether treatment with acetazolamide a carbonic-anhydrase inhibitor, would result in better clinical outcomes is unknown.

Methods. We randomly assigned children with Bartter syndrome in a 1:1 ratio to either receive indomethacin, enalapril, and spironolactone or indomethacin, enalapril, and spironolactone plus acetazolamide once daily in the morning for 4 weeks. After 2 days of washout, participants crossed over to receive the alternative intervention for 4 weeks. The present study examines the serum bicarbonate lowering effect of acetazolamide as an adjunctive therapy in children with Batter syndrome.

Results. Of the 43 patients screened for eligibility 22 (47%), between the ages 6 and 42 months, were randomized to intervention. Baseline characteristics were similar between the two groups. Addition of Acetazolamide for a period of 4 weeks significantly reduced serum bicarbonate and increased serum potassium, parallel with a reduction in serum aldosterone and plasma renin concentration. The 24-h urine volume, sodium, potassium, and chloride decreased significantly.

Conclusion. Our data define a new physiologic and therapeutic role of acetazolamide for the management of children with Bartter syndrome.

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Evaluation of Curcumin (Turmeric Extract) Effect on Prevention of Contrast Induced Nephropathy in Patient Under Elective Coronary Angiography, A Randomized Double Blinded Placebo-controlled Clinical Trial

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Introduction. Curcumin is turmeric extract that have anti-proliferative, anti-cancer, and anti-oxidant effects and has been shown that it may have nephro-protective properties. This study conducted to evaluate the efficacy of curcumin in the prevention of contrast-introduced nephropathy (CIN).
Methods. This randomized placebo-controlled clinical trial was carried out on 138 patients with chronic stable angina scheduled for elective coronary angiography, and also have renal insufficiency. Patients were randomized to receive curcumin or placebo in addition to standard hydration with saline 0.9% before nonionic iso-osmolar contrast agent administration for angiography. Serum creatinine was measured 12 h before and 24 h, and 48 h after contrast injection. CIN, mainly; defined as in increase in creatinine of $\geq$ 0.5 mg/dL or $\geq$ 25% from the baseline.
Results. Serum Creatinine change was 0.19 ± 0.31 mg/dL which was 0.22 ± 0.33 and 0.16 ± 0.29 in placebo and curcumin group, respectively. In 'repeated measure analysis' no statistically difference was found in creatinine serum level changes from pre-intervention to 24 h and 48 h after intervention. CIN was occurred less frequently, though statistically insignificant; in curcumin group (22.7%) compared to placebo group (32.3%).
Conclusion. It was found that although curcumin reduced the incidence of CIN, this difference was not statistically significant. It seems that, like other antioxidant substances studied in previous studies, such as n-acetylcysteine, ascorbic acid, and theophylline; although curcumin can reduce apoptosis and oxidative stress at cellular level, but in patients with a high risk for CIN, such as patients with renal insufficiency, it does not produce more protective effects than hydration with normal saline.

114 Clinical Evaluation of Applying the Results of Bio-impedance Analysis for Fluid Management During CRRT

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Introduction. Acute kidney injury (AKI) frequently occurs in intensive care units and increases the mortality rate, especially when the patients are over-hydrated. However, clinical and laboratory findings have poor sensitivity to detect volume overload in critically ill patients. There is no consensus about the way to determine appropriate ultrafiltration (UF) volume in patients on CRRT. In this study, we evaluate the benefits of fluid management based on bio-impedance analysis (BIA) in patients receiving CRRT.

Methods. In an 18-month-period, patients admitted to the ICU of Masih Daneshvari hospital and received CRRT were studied. The body weights and compositions were measured by a bed scale and a BioScan-916 analyzer at the start of CRRT and every 8 hours thereafter. Hydration status was estimated by clinical findings in control group and the water content of lean body mass or the distance from the major axis of tolerance ellipse in bioimpedance vector analysis in study group. The UF rate was set and changed during CRRT based on different protocols in each group.

Results. Considering the inclusion and exclusion criteria, we included 65 participants, 32 in intervention group. There was no significant difference in baseline parameters including demographics, APACHI II score, reasons for admission, as well as some final outcomes including the mortality, duration of remaining in ICU or under mechanical ventilation and renal recovery between two groups. However, the amount of fluid removed by UF was significantly higher in patients managed based on BIA parameters ($P < .05$). Considering BIA parameters in both groups, the duration of ICU admission was significantly higher in over hydrated patients ($P < .05$)

Conclusion. Overhydration in critically ill patients' recieving CRRT may be managed by using bioimpedance parameter more effectively. More studies are needed to evaluate the effect of applying this method on final outcomes of patients.

115 Antinephrin Antibody in Pediatric Renal Transplantation

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Introduction. Renal transplantation is the therapy of choice for children with end-stage renal failure**.** Patients with congenital nephrotic syndrome also do well and have better quality of life with renal transplantation; these Patients however have many complications after renal transplantation ie. medical and surgical complications. From medical complications recurrent renal disease is especially important but patients with congenital nephrotic syndrome may suffer from antibodies against components of capillary wall which is not normal such as Nephrin and Podocin.
Methods. In this presentation we discuss several aspects of post renal transplant complications which occurs in these patients after renal transplantation; also we present our experience in 2 patients.
Results. Kidney transplantations were performed at Labbafinejad Medical Center; first patient who was a 8-year age boy with NPHS2 mutation was transplanted pre-emptively. Kidney was taken from living unrelated donor. Immunosuppressive medications administered were prednisolone, tacrolimus, and mycophenolate mofetil. There was not acute rejection and he is well now with creatinine of around 0.7 mg/dL with no proteinuria and any complaint. Second patient was a 6-year old girl with NPHS1 mutation; was on peritoneal dialysis for 3 years and changed to hemodialysis due to peritoneal fibrosis. Two years later she was transplanted with deceased donor. The first week after transplant went uneventful but shortly after that at the end of second week she complained of abdominal pain and creatinine which was 0.5 mg/dL went up very fast and before arranging plasmapheresis or extra medication the kidney became very swollen and was nephrectomised.
Conclusion. This study indicated that significant variation exist in outcome of transplantation in CNS patients based on type of gene mutation.

116 Analyzing the Relationship Between Addiction to Video Gaming and Primary Monosymptomatic Nocturnal Enuresis in Children

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Introduction. Nocturnal enuresis defined as children urinary incontinence and more than 5 years of age, who is adequately mature to achievement of continence of urination.

Methods. In total 200 children, 100 healthy children as control group and 100 children with primary monosymptomatic nocturnal enuresis as case group, were evaluated. Epidemiologic, video gaming and nocturnal enuresis information have been collected and were analyzed by SPSS program, significant differences, *P* less than .05 were considered.

Results. Children with primary monosymptomatic nocturnal enuresis compared to healthy children were more prone to video gaming addiction ($P < .001$).

Conclusion. Video gaming addiction has a significant impact on primary monosymptomatic nocturnal, so control of stressful factors, instead of pharmacotherapy, can reduce this condition as a symptom.

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High Sensitivity CRP, Pentraxin 3, and Mannose-binding Lectin in Patients with Hemodialysis; Is There Any Association with Cardiovascular Complications and Mortality?

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Introduction. Cardiovascular disorder (CVD) is one of the most important comorbidities in patients with hemodialysis (HD). This study aimed to evaluate the association between three inflammatory biomarkers including CRP, pentraxin 3 (PTX-3), and mannose-binding lectin (MBL) with CVD events and mortality in HD patients.

Methods. This longitudinal study was carried out on 18 to 80 years old patients undergoing HD for at least six months. Patients were visited at baseline and every six months till 1 year. Echocardiography and calculation of ejection fraction (EF) was performed to determine the occurrence of CVD events. Hs-CRP was measured by immunoturbidimetric assay. PTX-3 and MBL were assessed by ELISA method.

Results. Ninety patients with the mean age of 54.0 (range: 19 - 86) years were included. Results showed that all biomarkers had significant area under the curve for accurate diagnosis between patients with low EF (with a decreasing measure) and normal EF patients ($P < .05$), however; none of them had a significant accurate diagnosis between patients with low EF (with a constant measure) and normal EF patients ($P > .05$). PTX-3 and MBL showed a significant correlation to detect CVD events ($r = 0.987$, $P < 0.001$). Although PTX-3 and hs-CRP ($r = 0.250$, $P < .05$), and MBL and hs-CRP ($r = 0.232$, $P < .05$) had significant correlations, these correlations were lower than the correlation between PTX-3 and MBL. None of these three inflammatory markers had significant accuracy for prediction of mortality.

Conclusion. Serum level of pentraxin 3 and MBL not only increases reactive protein, but also may be considered as diagnostic biomarker for early detection of CVD events in patients with end stage renal disease.

118 Effects of Omega-3 Fatty Acids on Uremic Pruritus in Hemodialysis Patients

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Introduction. Uremic pruritus remains a common and unpleasant complication in patients with renal failure, which can have a negative impact on the quality of life, mind and physical well-being of patients. Despite many efforts, no definitive treatment for this complication has yet been found. More than 40% of patients undergoing dialysis suffer from chronic itching. The main reason for the lack of effective treatments is the inadequacy of studies due to low number of studies and the inaccuracy of patient characteristics and their underlying illnesses.

Methods. This study was conducted as a randomized placebo-controlled, single¬blind, placebo-controlled clinical trial. 60 chronic hemodialysis patients with resistant itching, history of hemodialysis over 3 months, age over 18 years, and Kt/V (hemodialysis adequacy) above 1.2 were enrolled. Patients were randomly assigned into 2 groups. The treatment group consisted of 30 patients who received 1200 mg of omega-3 fatty acids daily for 3 montlhs. The control group· consisted of 30 patients who received daily 1200 mg of placebo for 3 months. The placebo capsule, other than the active ingredient, was quite similar to the omega-3 capsules. Pruritus questionnaire for assessment of itching severity was used.

Results. The effects of omega-3 on resistant itching in hemodialysis patients were nearly significant ($P > .05$). However, the pruritus subtypes such as severity, dispersion, and frequency in the omega-3 group were significantly lower than the placebo group ($P < .001$).

Conclusion. In this study, by consumption of 1200 mg omega-3 ratty acids daily resistant itching was reduced in hemodialysis patients. Also, subtypes related to itching including severity, dispersion, and frequency showed a significant improvement.

119 Epidemiology and Clinical Manifestations of Pediatric Urinary Tract Infection

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Introduction. UTI is common in children. This study aimed to evaluate the prevalence, etiology, and symptoms of UTI based on age and gender.
Methods. A cross-sectional study was conducted to investigate the available data of the children with UTI referred to the nephrology clinic of a tertiary academic children hospital during September 2002 to 2016. Patients aged less than 18 years included in the study.The data were assessed in terms of clinical manifestations, prevalence, etiology, and type of infection; febrile or afebrile.
Results. 1245 cases, including 1084 (87.06%) girls and 161 (12.94%) boys were enrolled. The age of patients at the first presentation was 3 days to 214 months. Fever was the most common manifestation (60.1%). The most and least cases of UTI were reported in children aged 2 to 24 months (600/1209; 49.62%) and > 10 years old (35/1209; 2.89%), respectively. The distribution of girls in age subgroups of 3 to 5 and 6 to 10 years old were significantly higher than boys. The main pathogens were E. coli, Klebsiella, Staphylococcus, Enterobacter, Proteus, and Enterococcus species; respectively. Girls were mostly infected by E. coli, while boys by Staphylococcus and Proteus species. The incidence of pyelonephritis decreased by age. Furthermore, considering total episodes of infections, febrile UTIs were as common in boys as in girls.
Conclusion. Prevalence of UTI is significantly higher in girls, and the frequency of UTI varies by age. Moreover, pyelonephritis is more prevalent among younger children regardless of gender. Also etiology of UTI is correlated with the gender.

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The Effect of Curcumin in Prevention of Contrast Nephropathy Following Coronary Angiography or Angioplasty in CKD Patients

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Introduction. Contrast-induced nephropathy (CIN) is the most common cause of iatrogenic acute kidney injury. It is happened more commonly in patients with underlying kidney diseases. It is appeared that the oxidative stress is the main mechanism of contrast nephropathy. Curcumin is suggested as an herbal antioxidant agent, so we decided to assess the effect of curcumin in preventing of this complication in patients with underlying CKD who need coronary angiography.

Methods. We conducted double blind, placebo-controlled clinical trial in 60 moderate to severe CKD patients who underwent coronary angiography or angioplasty. Adjusted dose of Iodixanol was used as contrast agent in all of them. Curcumin or placebo administered orally, 1.5 g/d from 2 days before procedure to 3 days after it. CIN was defined by an increased serum creatinine level ≥ 0.3 mg/dL or an increase to ≥ 1.5 times of the baseline within 48 hours after procedure. Urinary NGAL test was also done the next day after angiography.

Results. CIN occurred in 12 (20%) of patients, 5 (16.7%) in Curcumin group, and 7 (23.3%) in placebo group (odds ratio [OR]: 0.56, 95% CI = 0.18 to 2.36; $P > 0.05$). Serum creatinine was increased after 72 hours of intervention from 1.65 ± 0.26 mg/dL to 1.79 ± 0.33 mg/dL in Curcumin group and from 1.61 ± 0.23 mg/dL to 1.86 ± 0.35 in placebo group. There is no significant difference between the mean increase in serum creatinine concentration in the placebo group and Curcumin group (difference of 0.006 mg/dL, 95% CI: - 0.06 to 0.08; $P > .05$). Urinary NGAL test was significantly higher in patients with AKI ($P < 0.001$), but there weren't differences in its level in two groups ($P = > .05$)

Conclusion. It is appeared prophylactic oral Curcumin hasn't protective effects on CIN in high risk patients who have undergone coronary procedure.

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Studying the Association Between Uremic Pruritus and Serum Level of FGF23 in Hemodialysis Patients Who Referred to Medical Educational Centers of Rasht and Anzali

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Introduction. Chronic itch (CI) in haemodialysis (HD), often termed uraemic pruritus (UP), is a frequently experienced, tormenting and challenging symptom. Fibroblast growth factor-23 (FGF23) is a phosphaturic factor that is released from bone. A variety of bone diseases can occur in renal diseases. There has been an ongoing discussion about whether CI in CKD is brought about by the common disturbance of calcium/phosphate homeostasis. This study aimed to investigate the association of FGF23 with UP among HD patients.

Methods. In this cross-sectional study patients receiving maintenance HD in four referral medical centers were enrolled. Serum FGF23 levels were determined by the ELISA methodology. The various characteristics of pruritus were assessed using an interview questionnaire.

Results. Among the 237 study participants, 54% had UP. Serum FGF23 level was not different between the patients with and without UP (413.17 ± 416.97 vs. 410.81 ± 444.49, $P > .05$). Those with UP were on longer duration of dialysis ($P < .05$).

Conclusion. No association between FGF23 and UP was found in this study. More precise studies are recommended to evaluate the anti-inflammatory and anti-pruritic effects of statins in patients with uremic pruritus.

122 The Relationship Between Serum Level of Vitamin D and Nocturnal Enuresis in 5-7 Years Old Children Referred to 17 Shahrivar Hospital in Guilan Province

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Introduction. Nocturnal Enuresis is one of the most common diseases in children that has several physical and psychosocial effects on children and their parents. NE has a multifactorial etiology which depends on various factors such as genetic predisposition, biological, developmental, psychological, and social factors.There is a growing interest in the sleep habits of children affected by primary nocturnal enuresis. Recently, studies have investigated the association between vitamin D and the risk of sleep disorders.The aim of this study was to assess the relationship between nocturnal enuresis and serum vitamin D in children.

Methods. This analytical cross-sectional study was conducted on 294 children between the age of 5 to 7 years old who were referred to ambulatory clinic of the 17 Shahrivar Hospital, Rasht, Iran. Serum vitamin D3 level was assessed using enzyme-linked immunosorbent assay (ELISA). Demographic data including age, gender, paternal and maternal education level, family history for nocturnal enuresis, and enuresis status were recorded for each subject. Data was analyzed using SPSS software.

Results. A total of 292 children aged 5 to 7 years were recruited in this study. Among the remaining 292 subjects, 67 (22.9%) had nocturnal enuresis. In children with NE, low levels of vitamin D were observed in 18 (26.8%) male and 16 (23.8%) female. Low serum vitamin D3 level below 20 ng/mL was observed in 125 (42.8%) of the subjects. Generally, 34 (27.2%) of the 125 cases with low vitamin D levels suffered from nocturnal enuresis and 91 (72.8%) children were without nocturnal enuresis. In non-NE group low levels of vitamin D were observed in 44(19.5%) male and 47 (20.8%) female, respectively. Mean serum vitamin D3 level was 23.12 ± 14.3 ng/mL in all of cases. The chi-square test revealed no statistically significant association between nocturnal enuresis and vitamin D3 status ($P > .05$). There was a significant difference in distribution pattern of positive family history for nocturnal enuresis between nocturnal enuresis and control groups ($P < .001$). There was only a significant relationship between nocturnal enuresis.

Conclusion. The findings of this study revealed that vitamin D3 deficiency may result in nocturnal enuresis and that the positive family history is one of the risk factors for nocturnal enuresis in children.

123 Does Biotin Supplement Mitigate Muscle Cramps in Hemodialysis Patients?

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Introduction. Muscle cramp is a common complication in ESRD patients undergoing hemodialysis. Muscle cramp is an involuntary prolonged and painful condition. The source of muscle cramps may be from the central or peripheral nervous system rather than just a muscle's origin itself.
Methods. We enrolled Forty-one chronic hemodialysis patients who have had at least one muscle cramps during a month preceding recruitment. The intervention group included 21 patients, 11 men (52.4%) and 10 women (47.6%) and the control group consisted of 20 patients 10 men (50%) and 10 women (50%). According to the double-blind method, in the intervention group, 1 mg of biotin was administered for 12 weeks. In the control group, a placebo was given. In the baseline and the end of the 12th week, the levels of biotin were measured by the ELISA method. Using a visual analogue scale at the 12th week, cramp pain was assessed and by a questionnaire, cramp frequency, and cramp duration were recorded.
Results. In the intervention group and control group, the baseline biotin levels were 245.80 ± 271.05 ng/L, 236.90 ± 206.14 ng/L; respectively ($P > .05$). Additionally, in the intervention group and control group; the biotin levels after treatment were 424.28 ± 405.32 ng/L and 218.50 ± 178.71 ng/L, respectively ($P < .05$). After treatment, the frequency of cramp episodes and cramp severity score in the intervention group was significantly lower than the control group ($P < .05$). However, muscle cramps duration between the two groups was not statistically significant ($P > .05$).
Conclusion. Given that the biotin supplement appears to be safe and effective in diminishing the muscle cramps in hemodialysis patients, as shown in our study, we can recommend biotin for this propose.

124 Investigating the Relationship Between Plasma Zinc Level and Quality of Life in ESRD Patients

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Introduction. Zinc is a necessary and rare elemant which has important roles in immunity and metabolism. Zinc deficiency can lead to symptoms like growth failure, decreased appetite, delayed recovery of wounds, immune system dysfunctions and reduced fertility rate. In some studies Zinc deficiency occurs in 40% to 78% of CKD patients. One study found that 1 mg/dL decrease in Zinc plasma level can lead to 2% increase in hospitalization due to infection and 2.8% increase in mortality rate during this period of time. This study was conducted to assess the relationship between Zinc plasma level in ESRD patients and their quality of life.

Methods. This cross-sectional study was conducted on 150 patients undergoing hemodialysis and peritoneal dialysis in Alzahra and Khorshid hospitals. The quality of life index was measured using a particular quality of life questionnaire for all patients with higher scores corresponding to better quality of life. After measuring plasma Zinc levels the relationship between quality of life and plasma Zinc level in ESRD patients was evaluated.

Results. Eighty patients (53.3%) were men, seventy patients (46.7%) were women. Seventy five patients were undergoing hemodialysis and 75 other were undergoing peritoneal dialysis. The average age of patients was 59.40 (± 14.76) years, the average quality of life index was 296.48 (± 13.82) and the average plasma Zinc level was 72.92 (± 11.51). The relationship between plasma zinc level and quality of life was higher in men than in women. There was a meaningful connection between QOL and zinc level based on occupations. One unit increase in plasma zinc level affects the quality of life of working people more than housewives. In peritoneal dialysis patients the relationship between QOL and zinc level was stronger in Diabetes and hypertension patients than in those with an unknown cause of renal failure.

Conclusion. We found that there is a relationship between quality of life and plasma zinc level in hemodialysis and peritoneal dialysis patients based on gender, occupation, and main cause of renal failure.

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Evaluation of the Effects of Pramipxole in the Treatment of Restless Leg Syndrome in End-stage Chronic Renal Failure Patients Undergoing Hemodialysis

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Introduction. Restless Legs Syndrome (RLS) is a neurological sensory motor disorder that affects limbs and pramipexole and gabapentin are its treatment options. Despite the high prevalence of RLS in hemodialysis patients, few studies have been conducted on the effect of these drugs on the severity of RLS in them. Therefore, the purpose of this study was to investigate the effect of pramipexole and gabapentin on the severity of RLS in hemodialysis patients.

Methods. All hemodialysis patients in the dialysis unit of Boo-Ali Sina and Velayat hospitals in Qazvin were evaluated for RLS using the diagnostic criteria of the International Restless Legs Syndrome Study Group (IRLSSG). Out of 162 patients, 96 patients had RLS. Then, 60 patients with moderate or higher severity of RLS were entered into the study and randomly divided into two groups: pramipexole 0.18 mg/d and gabapentin 100 mg/d. They treated for 4 weeks. Finally, the rate of improvement in disease severity was compared in each group and between the two groups.

Results. 37 patients (62%) were female and the mean (SD) of patients' age was 64 ± 10 years. The prevalence of RLS was 59% (96 out of 162). The severity of RLS was significantly higher in preamipaxol group than in the gabapentin group before the study ($P < .05$), but after the study; there was no significant difference between the two groups ($P > .05$). The severity of RLS was significantly decreased after the study in all patients and also in each of the pramipexole and gabapentin groups ($P < .001$). The improvement in RLS severity after the study in pramipexole group (16.8 ± 6.5) was significantly higher than gabapentin group (13.0 ± 7.3) ($P < .05$).

Conclusion. The findings of the study showed that the severity of RLS in hemodialysis patients with 4 weeks of treatment with pramipexole or gabapentin was significantly reduced and the rate of improvement of RLS severity was higher in pramipexole group. So, pramipexole and gabapentin are effective in the treatment of hemodialysis patients who suffered from RLS.

126 Investigation Study of ACE Gene Polymorphism in Iranian Population with HTN

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Introduction. Essential hypertension (HTN) is a condition that many factors increase the risk of developing it. Today, many studies have shown that, in addition to environmental risk factors, genetic factors can also predispose some people to the disease. The Renin-Angiotensin System (RAS), which plays a role in controlling hemostasis in the body, can increase the development of HTN. Various surveys have shown that ACE I/D polymorphism that influence ACE activity, a key component of RAS; have a role in the risk of HTN. However, the results of different studies are controversial and more investigations needed to show such an association.

Methods. In this study, blood samples were collected from 102 patients and 104 healthy individuals. The two groups matched by age and sex. Informed consent was prepared for the study. The demographic data were collected using a questionnaire. WBC and then DNA were extracted from whole blood. After that, the PCR test was performed using specific primers. PCR products were examined using 1% agarose gel. Individuals with genotype II having a band of 490bp, ID two bands of 490bp and 190bp, and individuals with DD genotype, have a band in region 190bp.

Results. The average age of the patients was 52.7 ± 7.5 years. There was a significant difference in the distribution of DD, II, and I/D genotypes of ACE polymorphism in the essential hypertensive patients (44.1%, 10.8%, and 45.1%) and their ethnically matched normal control (61.5, 3.8, and 24.6%; respectively). Our study showed an increased risk of disease in people with II genotype in comparison to ID and DD genotypes (0.46 (0.1 - 1.75) and 0.26 (0.05 - 0.94), respectively).

Conclusion. The present study demonstrated that ACEI/D polymorphism is a risk factor for essential hypertension in the Lorestan province. II genotype increased the relative risk of essential HTN in the population. In the future, more investigations with more samples size are recommended for the better study of genetic factors in hypertensive patients.

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The Role of Clinical Volume Assessment in the Management of Hyponatremia Discrepancy Between Clinical Volume Assessment Versus Laboratory Investigations and Change in the Management

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Introduction. Hyponatremia is a very common electrolyte abnormality with complex pathophysiology and poor clinical outcomes. Major management step involves clinical volume assessments (orthostatic vitals, dry skin/mucosa, skin turgor, and JVP based on JAMA rational exam) to categorize patients. However, compared to laboratory assessment (changes in hematocrit, albumin, and urine osmolality plus sodium) clinical volume assessments often fall short of proper reliability. We hypothesize that there is significant inter-observer variability between ordinarily performed clinical volume assessments in comparison to laboratory assessment.

Methods. In a retrospective, cross sectional study; we reviewed the charts of 200 patients, admitted in general internal medicine. Patients who had sodium concentration < 134 on admission were included in the analysis. We focused on the history and physical examination section on admission notes and recorded lab parameters. Then, the discrepancy between nephrology and internal medicine teams' clinical volume assessment compare to laboratory assessment were appraised.

Results. Out of 200 patients,105 (CI 95%: 104.95 – 105.59) had no proper assessment for volume status, 33.5% (CI 95%: 33.35 - 33.71) did not have their JVP assessed, mucus membrane was not examined in 74.5% (CI 95%: 178.15 - 179.93) and orthostatic vitals were performed in only 10.5% (CI 95%: 10.46 - 10.57) of patients presenting with hyponatremia. A significant interobserver variability of 28.5% was observed between different residents and nephrology assessment ($P < .05$). Change in management was present in 15% (CI 95%: 14.9 -15.1) patients. Discrepancy between clinical assessment and lab parameters were observed in 37% (CI 95%: 36.9 - 37.04).

Conclusion. Although detailed volume assessment could assist to determine effective circulatory volume depletion as etiology of ADH presence in hyponatremia, ordinary performed volume assessment performed by trainees is insufficient and questionable reliability. Thus, it might be necessary to revise the algorithms for hyponatremia management as they rely primarily on volume assessment as a first step to devise management.

128 Lipid Profile Changes in Peritoneal Dialysis Patients During One Year After Onset of Peritoneal Dialysis

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Introduction. Peritoneal dialysis (PD) patients use dextrose solutions three to four times per day and glucose absorption may lead to hyperglycemia, hyperlipidemia, and early satiety. In our region we had few studies to evaluate lipid profile changes in these patients, so the present study aimed at evaluating the effective factors in lipid profile changes in these patients over one year.

Methods. This cross-sectional study was performed on 251 peritoneal dialysis patients, whose profiles were available in the archives of hospital. Demographic data and lipid profile of these patients including total cholesterol (TCH), low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglyceride (TG), and blood glucose levels were recorded and analyzed at baseline as well as six months and one year after the start of dialysis. Data were analyzed using linear regression analysis and signified with P value < .05.

Results. Changes in the triglyceride (from mean 135 ± 66 to 140 ± 64 mg/dL) and lipid profile of the patients during one year of dialysis were significant (P < .05). Evaluation of the effective factors in this regard revealed that male gender had a direct and significant relationship with all the evaluated lipid parameters. In addition an increase in the hemoglobin (Hb) level had a direct and significant relationship with elevated levels of LDL, TCH, and TG. Moreover, blood glucose level had a significant relationship with increased levels of TCH and TG. Finally, dialysis solution with 2.5% and 4.25% dextrose had a significant and direct effect on increasing the levels of TCH and LDL, respectively.

Conclusion. According to the results of the present study, the lipid profiles of patients undergoing PD, revealed significant increase. The most significant factors associated with lipid profiles were the type of dialysis solution, and the blood glucose and Hb levels.

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High Frequency of Urine Metabolite Abnormalities in Children With Asymptomatic Hematuria

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Introduction. Asymptomatic hematuria is an important manifestation of nephrologic and urologic disorders with an incidence of 0.4% to 4.1%. The purpose of this study was to identify the characteristic of urine biochemical disturbances in children with unexplained isolated microscopic or macroscopic hematuria.

Methods. A total of 681 patients with culture negative hematuria were evaluated in this study. Of these, 159 cases were excluded; one hundred had renal stone in their kidney and urinary tract ultrasonography and 59 patients had findings of glomerular disorders. A 24-h urine collection was collected on a regular diet and analyzed for metabolic risk factors including calcium, citrate, oxalate, phosphate, uric acid, and magnesium levels.

Results. Of 522 enrolled patients, 88.5% had only isolated microscopic hematuria and 11.5% (60 patients) had gross hematuria at the beginning of presentation. Mean age at the time of diagnosis was 5.9 years (range: 1 - 14.5) and female to male ratio was 2/1. The most common symptoms in their history were occasional abdominal pain (74.5%), dysuria (40.6%), urinary tract infection (31%), and enuresis (13.1%); respectively. 80.3% of patients had a family history of nephrolithiasis. Metabolite abnormalities in their 24-h collected urine were identified in 94% of cases, with the predominance of hypocitraturia (60.7%), followed by hypomagnesuria (58.2%), Hyperuricosuria (35.8%), hypercalciuria (33.7%), hyperoxaluria (24.9%), and cystinuria; respectively. The history of occasional abdominal pain, dysuria, and urinary tract infection in girls was significantly higher than that of boys ($P < .05$). Hypomagnesuria was significantly higher in girls and in children younger than 5 years. More than 30 RBC count in urine analysis (18%) was statistically correlated with the family history of nephrolithiasis ($P < .05$).

Conclusion. We concluded that urinary biochemical abnormalities are suggested as potentially reversible causes of idiopathic hematuria in children. Therefore, measurement of urinary metabolites is recommended for the evaluation of children with isolated hematuria, to prevent unnecessary invasive diagnostic approaches in these patients.

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Effect of Low Dose Imipramine in Patients with Nocturnal Enuresis, A Randomized Clinical Trial

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Introduction. Nocturnal enuresis is a condition, which can affectthe quality of life in children. The present study was designed toinvestigate the efficacy of low-dose imipramine combined withdesmopressin on treatment of patients with primary nocturnalenuresis who were defined as desmopressin non-responders.

Methods. A randomized clinical trial was carried out on patientswith primary nocturnal enuresis. Forty children with enuresisranging from 5 to 12 years old were randomly divided into theintervention (n = 20) and control groups (n = 20). The subjects in the intervention group were treated with desmopressin combinedwith 5 mg imipramine at bedtime, and those in the control group were given desmopressin alone. The patients were followed upweekly for one month. The number of wet nights was recorded.

Results. Two individuals in the intervention and three individualsin the control group were excluded from the study. Our findings indicated that the age and gender showed no significant difference. Furthermore, a significant better recovery in the enuresis was observed in 18 of 20 patients who were treated with combinationtherapy after 1 month ($P < .05$). In addition, the frequency ofrecovery was significantly higher (83.3%) in the intervention group, compared with the control group (29.4%).

Conclusion. The analysis showed that low-dose imipramine is welltolerated in clinical practice and may represent a good short-termtreatment option in combination therapy where desmopressinalone is not efficient enough.

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Comparing the Effect of Sevelamer Hydrochloride and Calcium Carbonate on Serum Level of hs-CRP, Soluable CD-14, and Endotoxin in Hemodialysis Patients

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Introduction. Today, incidence of ESRD and renal replacement therapy are increasing especially in developing countries. Hyperphosphatemia in patients under hemodialysis usually treated with phosphate binder medications. Studies have also suggested that inflammation is one of the leading causes of death in ESRD patients. The aim of present study was to evaluate the effect of sevelamer hydrochloride and calcium carbonate on inflammatory markers in hemodialysis patients.

Methods. In a clinical trial study, 45 ESRD patient whom under hemodialysis and referred to hemodialysis centers of Tabriz university of medical sciences and also indicated to treatment with phosphate binders (serum phosphate level greater than 5 mg/dL) and calcium-phosphorus (Ca x P) product were less than 55 mg2/dL, were included the study. The patients were randomly allocated in two groups and 24 patients (group A) received sevelamer hydrochloride (RenaGel) 800 mg, PO 3 times/d with meals and 21 patients (group B) received calcium carbonate 1000 mg, PO 3 times/d with meals. Both groups were treated two months and changes in inflammatory markers in serum including hs-CRP, soluable CD-14 (sCD14), and endotoxin were studied.

Results. At the beginning of study, the mean hs-CRP, sCD14, and endotoxin in group A were 17.55 (10.22 - 34.67) mg/L, 318.95 ± 72.38 ng/mL, and 2.58 ± 0.98 EU/mL; respectively, and in group B were 5.30 (2.12 - 14.37) mg/L, 287.47 ± 74.67 ng/mL, and 2.70 ± 1.28 EU/mL; respectively. There were no significant differences in inflammatory markers between group A and group B at the beginning of study ($P > .05$, $P > .05$, and $P > .05$; respectively). After two months of treatment the mean hs-CRP, sCD14, and endotoxin in group A were 6.35 (2.72 -22.25) mg/L, 245.82 ± 58.09 ng/mL, and 2.25 ± 1.02 EU/mL; respectively and in group B were 4.50 (2.07 - 6.15) mg/L, 233.95 ± 59.19 ng/mL, and 2.09 ± 0.88 EU/mL; respectively. Also, there were no significant differences in inflammatory markers between group A and group B at the end of study ($P > .05$, $P > .05$, and $P > .05$; respectively).

Conclusion. Using RenaGel and calcium carbonate as phosphate binders in hemodialysis patients can reduce the inflammatory markers. Based on finding of present study, there were no any significant differences in the changes of serum inflammatory markers between both group of study and RenaGel can be used as alternatively to calcium carbonate.

132 Contrast-induced Nephropathy After Primary Percutaneous Coronary Intervention for Acute Myocardial Infarction

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Introduction. Contrast-induced nephropathy (CIN) after Primary Percutaneous Coronary Intervention (PCI) is a complication that negatively affects both morbidity and mortality during hospitalization in the long term. Considering the prognosis and burden of the CIN, useful predictors are essential for early diagnosis alongside prophylactic therapies, can be used to minimize the heart and kidney damage after the PCI procedure. In this study, we have investigated the predictive value of predisposing factors with the incidence and outcome of CIN in ST-elevation myocardial infarction (STEMI) patients undergoing Primary PCI.

Methods. This retrospective analysis included 223 consecutive STEMI patients who underwent Primary PCI (mean age 59.1 ± 12.3 years, and 78.9% men). The study population was divided into two groups: CIN (+) and CIN (-).CIN was defined as increased serum creatinine by 25% or 0.5 mg/dL within 48-72 hours post-PCI.

Results. Among 223 patients, CIN occurred in 41(18.3%) patients. Risk predictors for CIN include age (Odds Ratio (OR) = 1.03, 95% CI: 1.00 - 1.05; $P < .05$), hematocrite (OR = 0.91, 95% CI: 0.85 - 0.97; $P < .05$) and GFR (OR = 0.98, 95% CI: 0.96 - 0.99; $P < .05$). Diabetics on insulin therapy were at the higher risk of CIN compared with diabetics on oral hypoglycemic drugs (18.9% vs. 16.2%, $P > 0.05$). Patients who developed CIN had longer hospitalization stay (5.45 ± 0.3 days vs. 4.28 ± 0.1 days; $P < .001$).

Conclusion. The subgroup of patients with older age, anemia, higher baseline Cr, and insulin-dependent diabetes undergoing primary PCI are at higher risk of developing CIN after the procedure. Prophylaxis may be considered in these patients to prevent further kidney and cardiac damage.

133 Comparison of Measuring Blood Pressure by Ambulatory Blood Pressure Monitoring with Casual Method to Evaluation LV Mass Index in Patients with CKD

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Introduction. At least 70% of people with CKD have hypertension. The present study aimed to compare the mean blood pressure measured by ABPM with the blood pressure measured by the casual method and to determine its relationship with left ventricular mass index in children with chronic renal failure.

Methods. In this prospective cross-sectional study, children with chronic renal failure who were admitted to Mofid children hospital from 2017 to 2018 enrolled in the study. Demographic data were collected at the time of admission and through an interview with parents. Each child was monitored during the first 24 hours, every 20 minutes during the day, and every 30 minutes during the night using ABPM and the casual methods. All patients underwent echocardiography using MY lab imagic maestro by a pediatric cardiologist. Patients' LV mass index values were recorded in data forms and analyzed with SPSS version 23.

Results. Thirty-six children enrolled in the study. Twenty patients (55.6%) were male and 16 patients (44.4%) were female. The mean age of the patients was 10.74 ± 4.09 years. The mean creatinine level of the patients was 4 ± 3.22 mg/dL, the mean GFR of patients was 26.32 ± 21.65 mL/min, and the mean LV mass of patients was 117.42 ± 89.62 g/m^2. According to the results of this study, 12 patients (34%) had systolic hypertension and 8 patients (23%) had diastolic hypertension. By ABPM method, 17 patients (47%) had systolic hypertension and 17 patients (47%) had diastolic hypertension. There was no significant relationship between patients' blood pressure (in both Casual and ABPM methods) with age and sex. Examination of the body mass index showed that the mean BMI of the patients was 17.13 ± 2.95. There was a significant negative correlation between systolic and diastolic blood pressure and BMI. There was no significant relationship between systolic and diastolic blood pressure measured by ABPM and BMI. According to the results of this study, there was a significant positive correlation between systolic and diastolic blood pressure with LV mass. There was also a significant positive correlation between systolic blood pressure measured by ABPM and LV mass.

Conclusion. The present study showed an increase in LV mass in patients with chronic renal failure due to hypertension in these patients. On the other hand, the present study indicated that ABPM measurement of blood pressure leads to identify more cases of systolic and diastolic hypertension compared to the casual method. It seems that accurate

and timely diagnosis of hypertension in patients with chronic kidney disease using ABPM method and necessary control measures can reduce the possibility of heart problems in these patients, lead to improved therapeutic results and better management of the disease.

134 Severe Hypernatremic Dehydration as a Manifestation of Glucose- galactose Malabsorption (Report of 3 Cases)

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Introduction. Glucose galactose malabsorption (GGM) is a rare autosomal recessive disease which is caused by a defect in the sodium-coupled transport of glucose and galactose across the intestinal brush border (SGLT1). It presents during neonatal period with life threatening diarrhea and dehydration. Herein, 3 cases at neonatal age with severe diarrhea and hypernatremic dehydration and dramatic response to fructose based formula are presented.

Case Report. Our 1st case a two week old male presented with profuse diarrhea and metabolic acidosis and serum Na190 meq/L with the management of dehydration and improvement discharged on breast feeding. Three days later referred with the same problem and serum Na 178 meq/L and again discharged after stabilization with serum Na 141 meq/L and normal Blood gas. In 1 month year old, he was again admitted with severe dehydration and metabolic acidosis and serum Na 187 mEq/L. In this admission urine glucose was 2(+) and also urine reducing substance was positive. At this time, with clinical impression of glucose- galactose malabsorption a glucose-galactose free formula (galactomin 19) started for him and his response was dramatic. Our second and 3rd cases had similar presentation with serum Na of 173 and 167 meq/L. Having in mind, our 1st case history the diagnosis and treatment was straight forward. Three cases of severe diarrhea and hypernatremic dehydration at the neonatal age are described. Type of diarrhea was osmotic in nature and all of them had dramatic response to fructose based formula. The interesting finding in all of them was the temporary nature of the disease, since all of them in follow up at about 2 years old had no problem with regular diet of the family.

Conclusion. During neonatal period and early infancy in children with diarrhea and hypernatremic dehydratin we should think of GGM.

135 Inflammatory Markers and Coenzyme Q10 Therapy in Hemodialysis Patients

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Introduction. Inflammatory markers are increased in ESRD especially diabetic patients and are positively correlated to cardiovascular mortality. Coenzyme Q10 (CO-Q10) a substance with antioxidant properties, may be effective in reducing cardiovascular complications in hemodialysis patients. The aim of this study was to investigate effects of CO-Q10 supplementation on plasma creactive protein, homocysteine, and albumin in hemodialysis patients.

Methods. Forty diabetic ESRD patients with at least 6 months on hemodialysis were evaluated in a double blind randomized clinical trial. The patients were randomly assigned into one of the two groups receiving CO-Q10 100 mg/d and placebo. In all patients serum levels of homocysteine, albumin and CRP were measured before and after 6 months.

Results. Mean age of the patients was 60.3 ± 9.1 years and 57.5 % were male. There was no statistically difference between two groups at baseline. Furthermore, no significant difference was observed in serum albumin ($P > .05$), CRP ($P > .05$), and homocysteine ($P > .05$) at the end of intervention between groups.

Conclusion. This study showed that in patients with ESRD, using CO-Q10 supplementation has minimal beneficial effects on serum albumin, CRP, and homocysteine levels.

136 Comparing the Effect of Induction Therapy With or Without ATG on Renal Allograft Outcomes in Live-donor Kidney Transplant Recipients

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Introduction. This study aimed to investigate the effectiveness of antithymocyte globulin (ATG) in low-risk live-donor kidney transplant recipients (LDKTRs).

Methods. In this cohort study, 114 LDKTRs were analyzed in 2 groups of ATG induction therapy (n = 77) and control (n = 37). In this study, 500 mg pulse therapy with methylprednisolone was provided for both groups for 3 days. In addition, 1 mg/kg of daily ATG was prescribed for 4 days in ATG induction group. Serum creatinine (Cr) was measured at 3, 7, 30, 90, and 180 days after surgery and discharge day. Acute rejection (AR) was confirmed based on biopsy or rise in serum Cr by three-tenths from baseline if other causes had been ruled out. Survival analysis was used by Stata14 and $P < .05$ was considered significant.

Results. Cr changes were not significantly different between ATG induction therapy and control group in all follow-up periods (2.26 and 1.07 in ATG vs. 2.26 and 1.03 in control group from the third day ($P > .05$) to the sixth month ($P > .05$)). There was no significant difference between the 2 study groups in AR incidence (11.7% in ATG vs. 10.8% in control group, $P > .05$) and its time (9.6 in ATG vs. 9.8 in control group, $P > .05$). Recipients factors were baseline Cr > 10 mg/dL ($P > .05$), blood group AB ($P < .05$), no postoperative pulse therapy with methylprednisolone ($P < .05$); and donors' factors were age ≤ 30 years ($P < .05$), and blood group AB ($P < .05$). Also, based on the log rank analysis, recipient-donor weight difference of 0 to 5 kg ($P < .05$) had a significant association with earlier AR. Exploring these effects simultaneously by cox regression analysis showed only significant results for recipients' baseline Cr ($P < .05$) and postoperative therapy with PM ($P < .05$).

Conclusion. Both strategies of induction therapy had the same good results based on Cr decrease. Recipients' baseline Cr and postoperative therapy with methylprednisolone were the predictors of survival time of the kidney (AR).

137 Evaluation of Postnatal Ultrasound Follow-up Rate and Its Related Factors in Neonates with Fetal Hydronephrosis Born in Mousavi Hospital of Zanjan During 2016-17

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Introduction. The most common fetal abnormalities during pregnancy are renal anomalies. Initial screening is performed by observation of hydronephrosis in fetal ultrasound, which is a nonspecific finding. About half of fetal hydronephrosis resolves uncomplicated and spontaneous, but a significant percentage remain pathologic, many of which may also have different kidney disorders and therefore require immediate medical treatment. It is not possible to distinguish possible diagnosis except by timely post-natal ultrasound. Therefore, it seems necessary to conduct studies such as this study to evaluate the rate of postnatal hydronephrosis, lack of follow-up reasons, and frequency of different causes of hydronephrosis in neonates with fetal hydronephrosis.

Methods. In this longitudinal descriptive-analytic study, all neonates born in Ayatollah Mousavi hospital in Zanjan during one year, who had reported hydronephrosis in their fetal ultrasound, were enrolled. Initial infant data were extracted through identical questionnaires and hospital medical records. All mothers were given face-to-face information about fetal hydronephrosis and its postnatal outcomes, and follow-up with at least one post-natal ultrasound was recommended from the fourth day of birth until the end of the fourth week. The infants were observed for one month to determine the rate of postnatal follow-up, causes of non follow-up, various diagnostic tests, and the causes of hydronephrosis, and residual hydronephrosis in the first month of life. Data were analyzed by SPSS software version 16 using t-test, chi-square and ANOVA at the significant level of .05.

Results. In this study, out of 5952 newborns born in this center, 71 cases (1.19%) had fetal hydronephrosis in prenatal ultrasound. In 83.1% of cases ultrasound was performed in the third trimester of pregnancy. The highest degree of hydronephrosis was mild (78.2%) and in most of them, involvement was unilateral. Postnatal sonography showed kidney involvement in 18 infants (25%). The most common involvement was in the left kidney (61.1%). Seven infants had no follow-up after one month of birth (9.86%). Failure to follow up was due to the recommendation of physicians in 5 cases and the relatives of patients in 2 cases. There was no significant relationship between non follow-up with location of residence, maternal literacy, number of siblings, and gender of neonate.

Conclusion. Postnatal follow-up rate in neonates with a history of fetal hydronephrosis after one month of birth is incomplete despite education at birthtime. Postnatal ultrasound should be performed at the time the baby is discharged from the hospital.

138 Relationship Between Biochemical Indices in Hemodialysis Patients and Mortality, Survival Analysis

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Introduction. People with chronic renal failure (CRF) undergoing hemodialyses pay high costs and suffer complications like premature death. The study was conducted to determine relationship of blood biochemical in hemodialysis with premature death.

Methods. In this cross-sectional, prospective-retrospective study; conducted from 2014 to 2018 in Kowsar hospital, Semnan, 90 patients were enrolled using consensus sampling method. The demographic data checklist was recorded. Additionally, levels of hemoglobin, ferritin, cholesterol, triglyceride, serum albumin, bone-specific alkaline phosphatase (BAP), vitamin D3, and iPTH were assessed. T-test or its nonparametric counterpart (Mann–Whitney U test) was applied for quantitative variables. Additionally, chi-square test or fisher's exact test for qualitative variables, log rank test for survival probability, and cox proportional-hazards model was used to examine the correlation between the assessed factors and the risk of premature death.

Results. Ferritin level was significantly higher in patients with premature death compared to those who survived ($P < .05$). The survival rate of the patients with cardiovascular diseases was about 25 months ($P > .05$). The survioval rate of patients with ferritin below 500 ng/mL was about 46 months ($P < .05$). The risk of premature death in the patients with cardiovascular diseases was 1.89 times (approximately 2 times) higher and 0.55 higher in the patients with ferritin higher than 500 ng/mL.

Conclusion. It seems that serum ferritin levels as well as suffering from cardiovascular diseases are effective in predicting premature death in hemodialysis patients.

139 Relation Between Serum Creatinine, BUN, and 5 Years Survival in Chronic Hemodialysis Patient

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Introduction. Although mortality rate in dialysis patients has fallen slightly in the United States, it is still high. The five-year survival rate is approximately 35% to 40% in USA. Over the years, many studies have been conducted to determine the predictors of mortality and survival improvement in hemodialysis patients. This study was conducted to investigate the mortality rate and factors which have impact on it in Iranian hemodialysis patients.

Methods. This is a retrospective cohort was done from 2012 to 2017 (referred to HD-MORF study) in six hemodialysis centers of Isfahan, Iran. The study population were all patients over 18 years old on chronic hemodialysis for more than 3 months. Patients who had cancer or died within three months from the onset of hemodialysis excluded from the study. Age, sex, weight, comorbid diseases including diabetes mellitus, hypertension, ischemic heart disease, congestive heart failure, and cardiovascular diseases were recorded. Laboratory measurements included blood urea nitrogen (BUN), creatinine, and urea reduction ratio (URR), performed at beginning of hemodialysis and every three months. Statistical analyses were done using SPSS version 22. The kaplan-meier method and the log-rank test were used to compare survival rates at different levels of creatinine and BUN based on different cut points. To determine the relationship between creatinine and BUN levels with survival rate in presence of confounding variables, Cox proportional hazards models were used.

Results. A total of 824 patients (61.80% male) with mean age of 57.92 ± 15.60 years included in the study. The frequency of DM, cerebrovascular disorders, ischemic heart disease, and congestive heart failure were 43.6%, 38.2%, 16.4%, and 3.8%; respectively. Mean duration of follow up was 24.08 ± 17.91 months. Totally, 1646.12 person years (PY) followed up in the study. Frequency of DM was significantly higher among patients who died during the follow up period ($P < .05$). Patients with basal Cr ≤ 5 mg/dL had significantly lower survival rate, in comparison with patients with basal Cr of more than 5 mg/dL (95% CI: 0.515 - 0.954, HR = 0.768, $P < .05$). Univariate analysis demonstrated that basal Cr concentration was significantly associated with patients' survival. Also, mean Cr and mean post BUN were significantly higher among alive patients.

Conclusion. This study revealed that a lower basal and mean BUN or Cr level was significantly associated with an increased risk for different causes of mortality and decreased survival in maintenance hemodialysis patients. Further researches are needed to determine whether BUN or Cr levels are potential therapeutic targets for reducing mortality and increased survival in patients undergoing frequent hemodialysis.

140 Prevalence of Uremic Pruritus in Patients Receiving Peritoneal Dialysis and Hemodialysis

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Introduction. Uremic pruritus is a common and bothersome symptom in patients with ESRD. Uremic pruritus considerably influences the quality of life, causing sleep disturbance and mood change. We conducted this cross-sectional study to compare the prevalence, intensity, and characteristics of uremic pruritus between PD and HD patients.
Methods. The study population included patients with ESRD who were undergoing maintenance dialysis at least for 6 months at Qaem, Imam Reza, Montaserie Hospital. The eligible participants were those aged 18 to 75 years old and had no primary skin disorders. The 5-D Pruritus Scale questionnaires were used to assess pruritus. Dialysis modality, patient demographic, clinical characteristics, and laboratory data were recorded and data was analyzed with SPSS-16.
Results. The prevalence of uremic pruritus in the whole study population was 42.2%. There was less prevalence of uremic pruritus in PD patients than in the HD patients, but the difference did not reach statistical significance ($P > .05$). This study showed that there is no significant association between age, gender, duration of dialysis, reason of ESRD, lab data, and pruritus. Compared with the HD patients, PD patients had less sleep disorder caused by pruritus. There was no significant association between dialysis type and duration, degree, direction, disability, and distribution of pruritus.
Conclusion. Our results show that uremic pruritus is common and bothersome in patients receiving either peritoneal dialysis or hemodialysis and there is no significant difference in pruritus prevalence between PD and HD patients. In addition, this study showed that there is significant association between dialysis type and sleep disorder caused by pruritus and in comparison to HD patients, PD patients had better quality of sleep. The result provides a valuable reference for clinicians and patients when choosing a dialysis modality.

141 Opioid Abuse in Hemodialysis Patients, A Cross Sectional Study in Shahriar City

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Introduction. Pain is one of the most common symptoms in hemodialysis patients that can resulted in opioid abuse in these patients. However Opioids are associated with adverse outcomes in patients on hemodialysis. This study aims to determine the prevalence and its related factors of opioid abuse in hemodialysis patients.

Methods. This cross-sectional study of 130 hemodialysis patients in Shahriyar (city in Tehran province, Iran) describes the prevalence of opioid abuse and its related factors by reviewing of demographic and clinical data of these patients.

Results. The median age was 54 years old and 60% were men. The prevalence of opioid abuse in patients was 39.2% and most of the patient stated them after undergoing on dialysis mostly for pain relief.

Conclusion. The prevalence of opioid abuse in dialysis patients is relatively high and it seems end stage renal failure is a risk factor for opioid abuse.

142 β-Thalassemia Minor and Renal Tubular Dysfunction, Is There Any Association?

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Introduction. β-Thalassemia is one of the most common hereditary hematologic disorders. Patients with β-thalassemia minor are often asymptomatic and renal dysfunction is rare in these patients. Due to the possibility of renal dysfunction in patients with thalassemia minor and high prevalence of it in Iran, the current study was designed to determine renal tubular dysfunction in these patients.

Methods. In this case-control study, 40 patients with thalassemia and 20 healthy subjects were enrolled and urinary and blood biochemical analysis was done on their samples. Renal tubular function indices were determined and compared in both groups. Data was analyzed by SPSS version 20.

Results. Fraction excretion of uric acid was 8.31 ± 3.98% in case and 6.2 ± 34.71% in control group ($P < .05$). Also, fraction excretion of potassium was significantly higher in patients with thalassemia minor (3.22 ± 3.13 vs. 1.91 ± 0.81, $P < .05$). Mean plasma NGAL level was 133.78 ± 120.28 ng/mL in patients with thalassemia and 84.55 ± 45.50 ng/mL in healthy individuals ($P > .05$). At least one parameters of tubular dysfunction was seen in 45% of patients with thalassemia.

Conclusion. Based on results of current study, prevalence of tubular dysfunction in beta-thalassemia minor patients is high. Due to the lack of knowledge of patients about this disorder, periodic evaluation of renal function can prevent renal failure by early identifying it in these patients.

143 Nocturnal Enuresis in Children and Correlation of this Condition with Attachment with Parents

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Introduction. Better status of attachment with parents be related to lower levels of social anxiety among children, and social anxiety can lead to urinary disorders.
Methods. We evaluated 200 children with 5 to 12 years of age, in Amir Kabir hospital. Children selected in two groups of case (100 children with nocturnal enuresis) and control (100 healthy children). We evaluate demographic and attachment with parents status of children and compared them in two groups of case and control.
Results. Demographic information was equal and not has statistically significant difference ($P > .05$) between two groups. Nevertheless, attachment variables including secure ($P < .05$), avoidant ($P < .05$), and anxiety ($P < .05$) have statistically significant difference in two groups.
Conclusion. Attention to attachment with parents, as psychosocial functioning of the child and parents may be important in the management of nocturnal enuresis.

144 Prevalence Rate of Vesicoureteral Reflux in Children with Urinary Tract Infection

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Introduction. Vesicoureteral reflux (VUR) were reported in 30% to 50% of children affected by UTI.The present study was performed to investigate the frequency of VUR in children presenting with UTI and the changes in its prevalence from birth up to 18 years.

Methods. This study was conducted on children with UTI referred to the nephrology clinic of an academic children hospital during 2003 to 2016 and subjected to direct cystourethrography. Finally, 908 patients; including 783 (86.23%) girls and 125 (13.77%) boys aged 3 days to 214 months (mean age: 33 ± 33.2 months) were enrolled.

Results. The VUR was observed in 419 (46.14%) cases. The cases with VUR were significantly younger at the time of presentation, compared to those without VUR (25.69 ± 27.78 vs. 39.56 ± 35.3 months, $P < .05$). The majority of the patients with VUR were the infants aged 2 to 24 months (59.75%), and just 9.2% of the subjects were diagnosed after 5 years of age. No case of VUR was found in the children presenting with UTI after the age of 12 years. The prevalence rates of VUR in the first, second, third, fourth, and fifth years of life were estimated at 56.64%, 48.2%, 49.46%, 35.8%, and 45.07%; respectively.

Conclusion. The results of the present study revealed the high prevalence rate of VUR (46.14%). In addition, severe VUR was not an uncommon finding, and affecting 10.7% of the total population. The results indicated a decrease in the prevalence rate of VUR with increased age when considering five main age subgroups of childhood.

145 An Observational Epidemiological Study of Febrile Convulsions Due to UTI

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Introduction. Febrile convulsion (FC) is the most common seizure disorder in childhood. Few studies focused on epidemiologic characteristics of urinary tract infections accompanied by febrile convulsion. We aimed to evaluate prevalence and incidence rates of febrile convulsion among children with UTI.

Methods. An observational study in epidemiology was performed in nephrology clinic of a tertiary hospital from June 2002 to 2016. Totally 1242 cases were followed and those aged 6 to 60 months enrolled the study. Demographic characteristics were compared between patients with and without febrile convulsion.

Results. 784 cases including 704 girls (89.8%) and 80 boys (10.2%) enrolled. Twenty five patients (3.18%) presented with febrile convulsion. Febrile convulsion occurred in 25 of 503 cases (5%) with febrile urinary tract infection. Twenty girls and 5 boys were in FC and 684 girls and 75 boys were in non-FC groups ($P > .05$). The average age in FC and non-FC groups were 15.52 ± 8.4 and 25.16 ± 16 months, respectively ($P < .05$). Patients were divided into 2 age sub-groups: 6 to 24 and 26 to 60 months. A significantly higher number of cases in FC compared with non–FC group were in age subgroup of 6 to 24 months ($P < .05$).

Conclusion. Our study revealed a prevalence rate of 3.18 % and an incidence rate of 5% for FC among children with UTI. Also FC subjects had a significantly younger age at presentation than non-FC cases. We found that febrile convulsion as presentation of UTI occurred up to 3 years old, and there is no significant gender difference between FC and non-FC cases.

146 The Application of Urinary NGAL Measurement for Early Detection of AKI in Hospitalized Patients with Poisoning

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Introduction. Early diagnosis of acute kidney injury (AKI) is critical for decision-making. Neutrophil gelatinase-associated lipocalin (NGAL) is a biomarker introduced for early detection of AKI. We evaluated urinary NGAL levels in hospitalized patients due to poisoning as a predictor of AKI.

Methods. We studied patients with poisoning due to various causes. Urinary NGAL and urine creatinine levels were measured. Serum creatinine levels were measured for all patients at baseline and after 24 and 48 hours. Then, a ROC curve developed for urinary NGAL, and cutoff point and accuracy of urinary NGAL test were determined.

Results. Ninety hospitalized patients with acute poisoning were consecutively recruited into the study over an eight-month period. With the gold standard test (i.e. serum creatinine measurement), 21 patients were diagnosed with AKI and 69 with non-AKI; whereas according to ROC curve, at a cutoff point of 110 ng/mL; urinary NGAL with an 81% sensitivity and 91.3% specificity distinguished 23 patients with AKI and 67 with non-AKI. The false positive and false negative values of urinary NGAL test were 8.7% and 19%, respectively. The positive predictive value and negative predictive value of urinary NGAL were estimated to be 73.9% and 94%, respectively.

Conclusion. Urinary NGAL test, with an AUC of ROC curve of approximately 90% and a sensitivity of 81% can be used for early detection of AKI. It has a high specificity (91.3%), indicating the percentage of false positive cases (8.7%) will be small.

147 Efficacy of Pregabalin in Uremic Pruritus

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Introduction. Uremic pruritus is one of the most disturbing complications that affecting significantly quality of life of patients with end stage renal failure. Finding new drugs with higher efficacy and lower side effects is always a concept.

Methods. This study is a randomized, double blind clinical trial that 30 patients with renal failure complaining of pruritus for at least 3 months since the beginning of hemodialysis enrolled the study. They were randomized in 2 groups A (Pregabalin 50 mg 3 times/d) and B (Ketotifen twice/d) for 4 weeks. Laboratory tests including parathyroid hormone, hemoglobin, calcium, and phosphorus were monthly assessed. Finally, efficacy of treatment and quality of life were assessed weekly by visual analogue scale and Itchy Qol; respectively.

Results. Thirty aged and sex matched patients enrolled the study. Severity of pruritus was decrease significantly during the time in both groups, but the difference was not significant between 2 groups. Furthermore, quality of life in A group was improved significantly from 7.42 ± 1.21 to 3 ± 1.19, and in B group from 5.85 ± 1.20 to 3.71 ± 1.19, and the difference between 2 groups was significant ($P < .05$). There was no significant difference between 2 groups regarding drug side effects.

Conclusion. Quality of life was significantly improved in Pregabalin group compare with Ketotifen group. But, severity of pruritus was not significantly changed between 2 groups.

148 Clinician Appreciation of Hypernatremia, Diagnostic Approach and Therapeutic Modalities

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Introduction. Hypernatremia, serum $NA^+ > 145$ mmol/L, is a common finding among critically ill patients (7%) especially elder population. Reported mortality rates range 46% to 70%. Brain cell shrinkage caused by hyperosmolarity is the most dangerous consequences of hypernatremia. Iatrogenic hypernatremia is a result of administration of insufficient amount or inappropriate types of fluid to patients with ongoing losses, impaired thirst or water intake inability. Inadequate education in clinicians can cause delay in diagnosis and management. The purpose of this study is to examine trainees and practitioners' knowledge about hypernatremia in; pathophysiology, diagnosis, and management.

Methods. Participants completed a survey of 25 questions. Following approval by UHN ethic research board, questionnaires were distributed among medical staff, residents, medical students and medical graduates in university teaching hospitals in Toronto. Results were analyzed and presented as a proportion of averaged correct/incorrect in three main domains.

Results. 150 out of 253 surveys were completed; 27 % staff and fellows, 47 % residents and medical graduates and 26% medical students. Only 52% appreciated the pathophysiology importance, 56% were aware of proper diagnostic approach and 53% responded appropriately to management. Data analysis showed that appreciation of thirst significance (pathophysiology) had thelowest correct response of 22%, 10%, and 8%; respectively among staff and fellows, residents and medical graduates and medical students. There was a knowledge gap in hypernatremia management with total accurate response of 20% in medical graduates, students and residents. Regarding to diagnostic modalities 22% of medical graduates, students and residents answered correctly. Only 41% of participants had accurate approach to different etiologies causing hypernatremia.

Conclusion. This study confirmed knowledge gap in hypernatremia particularly in pathophysiology and management. This could indicate inadequate education, which could be improved by proper training. Further research in hypernatremia pathophysiology, diagnosis and management will shed light in this area.

149 Obstructive Nephropathy; Prevalence, Etiologies, Outcome, and How Post-obstructive Diuresis Has Been Managed at University Health Network Hospitals

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Introduction. Obstructive nephropathy, a high morbidity and mortality condition; can be reversible if diagnosed and managed promptly. To improve outcomes, it is important to elaborate on its prevalence, etiologies, and clinical features to optimize diagnosis and management. Furthermore, there is no consensus on post-obstructive diuresis management, potentially causing an additional pre-renal acute renal failure (ARF) after resolving the obstruction.

Methods. Obstructive nephropathy was analyzed as post-renal ARF in this retrospective observational study of patients admitted to the UHN from 2015 to 2019. Data collected included demographic data, biochemistry, etiologies, comorbidities, management modalities, and imaging findings.

Results. 378 patients with ARF meeting the criteria have been analyzed so far, of which 76 (20%) had only post-renal ARF and 14 (4%) had combined post-renal with other ARF. Of these 90 patients, 69 (77%) had hydronephrosis, 49 (54%) had hypertension, 24 (27%) had diabetes mellitus, 14 (16%) had CHF, and 18 (20%) had CKD. Regarding etiologies, 21 patients (23%) had urolithiasis, 14 (16%) had BPH, 26 (29%) had cancer, and 7 (8%) had obstructed stents. For management, 42 patients (47%) received nephrostomy tubes, 15 (17%) received ureteral stents, 44 (49%) received foley catheters, and 8 (9%) received dialysis. Regarding fluid replacement for post-obstructive diuresis, 41 patients (54.7%) received 50% of losses, 8 (10.7%) received equal losses, 19 (25.3%) received individual-based solution replacement per volume assessment and 7 (9.3%) received no IV fluid. Two-thirds of patients recovered to baseline GFR.

Conclusion. 24% of all ARF was post-renal, more than literature suggests (5%). Urolithiasis and cancer were the most common causes. The most common management strategy was nephrostomy tubes. A high percentage of patients (66%) fully recovered; outcomes can improve further with a higher index of suspicion, earlier investigation, earlier diagnosis, and proper management. Additionally, the necessity of post-obstructive diuresis fluid replacement protocol is observed.

150 The Effect of Rosuvastatin on the Incidence of Contrast Nephropathy in Patients with CRF Under CT Scan with Contrast

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Introduction. Contrast-induced acute kidney injury (CI-AKI) is an important issue which many studies conducted to survey it. This study aimed to investigate the effect of Rosuvastatin on the development of contrast nephropathy in patients with chronic renal failure under CT scan with contrast.

Methods. In this clinical trial study, 402 patients with renal failure who underwent CT scan with contrast in Alzahra hospital, Isfahan, in 2018 to 2019 were studied. Patients were divided into two groups, patients in the first group received 20 mg Rosuvastatin 24 hours prior to CT scan and received 10 mg Rosuvastatin tablets/d for two consecuative days. The second group received a placebo.

Results. There was a significant difference in creatinine and GFR after CT scan ($P < .05$). The mean of creatinine was lower and the mean of GFR was higher in the intervention group than placebo after the intervention ($P < .05$). The frequency of nephropathy in the intervention group was 1%, and in the placebo group was 4%; which was significantly different ($P < .05$).

Conclusion. Using Rosuvastatin can reduce the risk of contrast-induced AKI, including nephropathy, increase in creatinine, and decrease in GFR.

151 A Rare Concomitant Finding of Spontaneous Retroperitoneal Hematoma and Membranous Glomerulonephritis

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Introduction. Spontaneous retroperitoneal hematoma (SRH) is a rare finding which usually accompany with anticoagulant and/or antiplatelet therapy.

Case Report. We describe a patient with rare presentation of SRH and membranous glomerulonephritis with diffuse visceral arterial micro aneurysms due to medium to small size vasculitis and weakly positive antinuclear antibody (ANA). In our knowledge, it is a unique report which does't has any serologic confirmation of specific vasculitis.

Conclusion. After 6 months treatment with cyclophosphamide and prednisolone all of microaneurysms disapreared and serum creatinin and proteinuria decreased more than 50%.

152 Assessment of Nutritional Status in Iranian Hemodialysis Patients

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Introduction. Protein-energy malnutrition is common among hemodialysis patients and is associated with higher rates of mortality and impaired quality of life. We evaluated nutritional status by using modified quantitative subjective global assessment (MQSGA) and anthropometric measurement.

Methods. A cross-sectional, descriptive analytic study was performed on 188 hemodialysis patients (125 male, 63 female) in one dialysis center during one year (2018 to 2019). Patients were divided in three groups according to MQSGA scores. Serum albumin, ferritin, lipid profile, calcium, phosphors, PTH, and vit D (OH) were measured. Anthropometric characteristics of the patients were recorded.

Results. Based on MQSGA criteria, 51% of patients had mild to moderate and 3.3% had severe malnutrition.

Conclusion. Malnutrition is common in Iranian hemodialysis patients. We conclude that the duration of dialysis and the level of serum ferritin BMI, visceral fat, leg skin fold thickness, and lean body mass can be important criteria for the hemodialysis patient's nutritional status.

153 Evaluation of the Variations in Branching Pattern of Renal Artery in Kidney Donors and Their Impacts on Graft Survival

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Introduction. With the gradual increase in kidney transplantation and vascular operations, evaluation of the morphology and renal artery variations are of great importance. Therefore, in order to have successful transplantation, a precise knowledge of renal artery morphology is demanded in the clinic. It was the aim of the present study to evaluate the variations in the branching pattern of the renal artery in kidney transplant patients.

Methods. Three hundred transplanted patients undergoing transplantation in Imam-Reza hospital, Tabriz; between 1393 and 1396 were studied based on inclusion and exclusion criteria. The artery patterns of donors were examined using CT angiography for the presence of peri-hilar, hilar, and additional vessels. Clinical data from transplant recipients such as their medical records were extracted and their current status was evaluated for survival and renal function.

Results. At the main arterial level, the fork pattern was seen in 95% (242) and the ladder pattern was observed in 5% (13) kidney grafts. Among the fork pattern, 65.2% (158) had duplicated, and 34.7% (84) had triplicated patterns. Then, the perihilar morphology of the main renal artery was classified into 17 groups based on the primary and secondary divisions and their patterns. Statistically, significant correlation was not observed between the pattern of graft artery and graft function and recipients survival ($P > .05$).

Conclusion. The peri-hilar branch of the renal artery of the transplant donors is very variable, but may follow certain patterns.

154 The Effect of Discontinuation of Angiotensin-II Receptor Blocker on Therapeutic Effect of Synthetic Erythropoietin on Anemia Modification in Hemodialysis Patients

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Introduction. The aim of this study was to evaluate the effect of discontinuation of losartan in response to synthetic erythropoietin therapy on hemoglobin level in patients on maintenance hemodialysis.
Methods. This study was a pre- and post-interventional clinical trial. The population of the study was hemodialysis patients with chronic renal failure. In the beginning of the study, and three months after removal of losartan; the patients' hemoglobin changes were compared.
Results. Hemoglobin was significantly increased at the end of the study in all patients (10.90 ± 1.66 at the beginning of the study to 11.37 ± 1.42 g/dL at the end of 3 months, $P < .05$). No significant changes were seen in the hemoglobin level before and after intervention between patients according age, sex, and duration of the disease.
Conclusion. There was a significant increase in hemoglobin level at the end of study after losartan discontinuation. But, this increase did not have a significant relationship with patient's age, sex as well as the duration of the disease.

155 Dose Hypoallergenic Diet Decrease Recurrence Rate in Pediatric Nephrotic Syndrome?

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Introduction. Nephrotic Syndrome is a major cause of CKD in children. Repeated relapses are an important cause of morbidities in this group of patients. One of the major causes of relapses in these patients is allergic attacks. The purpose of this study was to investigate the effect of hypoallergenic diet on prevention of relapses in pediatric nephrotic syndrome.

Methods. This clinical trial was performed on children with nephrotic syndrome. All patients with first diagnosis nephrotic syndrome were included in the study. At first written consent of parents was obtained for participation in the study, and then the patients were divided into two groups of case and control based on age, BMI, and sex. Patients in the case group, in addition to the usual evaluation and steroid treatment for minimal change nephrotic syndrome, received a hypoallergenic diet containing limitations on chocolates, spices, salty and fast foods, and carbonated beverages. Patients in both groups were visited monthly. Paraclinical information and relapse rates were recorded in patients' information forms. Collected data was analyzed by SPSS software version 23.

Results. Of 136 patients with nephrotic syndrome, 63.2% were males. 67.4% of study groups were treated with steroids and 29.6% were treated with steroids and ACE, simultaneously. The results showed that there were no statistically significant differences in demographic data between two groups ($P > .05$). The mean frequency of relapse was 1.23 ± 1.21 in patients. The relapse rate was significantly higher in control group ($P < .05$).

Conclusion. We concluded that hypoallergenic diet significantly reduces the chance of relapses in children with nephrotic syndrome.

156 Resolution of Renal Stone and Maitenance of Renal Function Following Preemptive Liver Transplantation in a 3.5-Year Old Girl

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Introduction. Combined liver and kidney transplantation or sequential liver and kidney transplantation is the procedure of choice for primary hyperoxaluria. Preemptive liver transplantation is a consideration but still challenging mostly on ethical grounds.

Case Reprot. A 3.5-year old girl with positive family history of primary hyperoxaluria (1° HO) is introduced. Since her brother was a case of 1° HO who presented at 2 years of age with multiple stones in both kidney and more than 20 episodes of ESWL, PCNL, and open surgery was performed for him and eventually at the age of 17 years he developed ESRD and after 10 months of hemodialysis. He had a successful simultaneous liver-kidney transplantation. Our patient at the age of 2 months had a screening US which revealed multiple bilateral small stones and nephrocalcinosis. She was treated with polycitra-K and high dose vitamin B6, but the response was not satisfactory and the stone size reached to 8mm. Having the disastrous history of brother in mind, preemptive split Liver transplantation was performed for her from a deceased donor. Now, she is in 4th year of liver transplantation and the result is amazing, almost no nephrocalcinosis and only two small stone < 3 mm has remained.

Conclusion. Preemptive liver transplantation is a suitable choice for children with 1° HO but one should take to the account the ethical issues because of the risks.

157 Identifying Effective Factors on the Quality of Services Provided to Hemodialysis Patients in Iranian Hospitals

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Introduction. Considering the importance of the effect of chronic renal failure on various aspects of patients' life, the purpose of the study was to determine the factors affecting the quality of services provided to hemodialysis patients.

Methods. The research was carried out using a mixed method. Samples were targeted at the qualitative stage and included 24 experts from hemodialysis section from 6 provinces of the country. In the quantitative phase, 150 employees in the hemodialysis department were examined. The information gathering tool in the first step was a library and in the second step was a questionnaire. The researcher-made questionnaire was designed with 6 elements, validity and reliability of the questionnaire were also evaluated using goodness of fit. The analysis in the descriptive statistics section included frequency, percentage, mean and standard deviation, and was used in the inferential statistics of exploratory and confirmatory factor analysis. Exploratory factor analysis was performed using SPSS 21 software and confirmatory factor analysis through Laser Level software.

Results. Six factors influencing the quality of hemodialysis services were identified, and based on the importance were: human resources (0.866), management (0.874), information technology (0.749), equipment (0.731), facilities (0.683), and physical space (0.628). The fittest indices also showed that effective factors have suitable fit and can be mentioned as factors affecting the quality of hemodialysis services in Iran.

Conclusion. Due to the low quality of life in hemodialysis patients, appropriate strategies should be taken to prevent the loss of resources and improve the patients' life quality by using the results.

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Gastroduodenal Lesions and Helicobacter Pylori Infection in Asymptomatic ESRD Patients Candidates for Transplantation

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Introduction. Patients suffering from ESRD usually cope with many issues on their illness and its treatment. Renal transplantation is the most effective therapeutic strategy in these patients. One of the post kidney transplantation complications is gastrointestinal bleeding due to peptic ulcers and other upper gastrointestinal diseases which affect on morbidity and mortality of patients. The present research aims to shed lights on prevalence of gastrointestinal lesions and helicobacter pylori infection using upper endoscopy in asymptomatic patient`s candidate for renal transplantation.

Methods. The present cross-sectional research was performed on renal transplant candidates suffering chronic renal failure referred to Montaserie organ transplantation center in 2016 to 2018. Including criteria were patients candidature for renal transplant and consent for involvement in the research. Excluding criteria were patients with apparent dyspeptic symptoms, patients with known upper gastrointestinal diseases, and patients who have been used PPIs, NSAIDs, and H2 blockers or antibiotics over the past two weeks. Patients who met criteria underwent endoscopy and were classified according to endoscopic findings, helicobacter pylori infection and pathologic findings.

Results. 85 ESRD patient mean age 39.09 ± 11.09 years enrolled in the study. 52.9% of patients were male. Hypertension and diabetes accounted for the most common cause of kidney failure in patients. In the present research about 90.6% of patients had been on dialysis. Mean duration of dialysis was 20.46 ± 16.12 months and hemodialysis (87%) was the most common dialysis method. 62 (72%) of patients had significant endoscopic findings. Erosive gastroduodenitis (31.5%) was the most common findings. There was not a significant correlation between endoscopic findings and age ($P > .05$), cause of renal failure ($P > .05$), dialysis type ($P > .05$), gender ($P > .05$), and infection with H. pylori ($P > .05$), and mean duration of dialysis ($P > .05$). 73% of patients had abnormal pathologic findings helicobacter pylori infection seen in 48.2% of patients' significant association seen between H. pylori infection and abnormal pathology ($P < .05$).

Conclusion. Asymptomatic gastrointestinal lesions and helicobacter pylori infection in renal transplantation candidate were significant, so routine upper endoscopy in pre-transplant patients recommended to detect and treat gastric lesions before transplant.

159 Clinical Study of Occurence Diabetes or Prediabetes in Patients with Urinary Calculi

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Introduction. Kidney stones are one of the major causes of morbidity in humans. There are many studies which show kidney stones are more commonly found in people with diabetes than healthy people. Furthermore, there is a hypothesis that "does a person with kidney stones have more risk of diabetes?". The aim of study is to evaluate the frequency of diabetes and prediabetes in patients with kidney stones and also to examine the most important parameters involved in this complication.

Methods. A cross-sectional study was performed on patients with kidney stones who referred to hospitals and educational clinics affiliated to Lorestan university of medical sciences since January 2017 to November 2018 based on hospital data, case data, and questionnaires information. Data were analyzed by SPSS-23 software.

Results. Out of 356 patients with renal stone, 258 (72.5%) were male and 98(27.5%) were female. Of all patients, about 30% (105 cases) were prediabetes, 69 of whom were men (27%), and others were women (37%). The number of diabetic patients was 32 (9% of total population), which 23 person were male (about 9% of all men) and others were female (about 9% of all women). Out of 356 kidney stone cases 137 (38%) had diabetes and pre-diabetes.

Conclusion. Finally, there was a boost to hypothesis that risk of diabetes and pre-diabetes in people with kidney stones was high. Also, data analysis showed that no significant relationship between sex, BMI, mean BS, and family history of nephrolithiasis in stone maker patients with diabetes was documented. However, the association between age, marital status, family history of diabetes, and blood was confirmed.

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Evaluation of Magnesium Level in Peritoneal Dialysis Patients and Its Associated Factors

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Introduction. Given the high prevalence of chronic renal failure worldwide and the fact that kidneys are the major means of magnesium excretion from the body, it is speculated that the incidence risk of magnesium balance disorder in peritoneal dialysis patients would be high. The aim of the present study was to evaluate the mentioned patients' magnesium level and specify the effective factors in this regard.

Methods. The present cross-sectional study was performed on 210 patients undergoing peritoneal dialysis that referred to Al-Zahra and Khorshid hospitals, Isfahan, Iran. Demographic data as well as magnesium level, duration of dialysis, type of dialysis solution, PTH, renal Kt/V, and calcium level were recorded and analyzed.

Results. The patients' mean magnesium level was 2.39 ± 0.39 mg/dL. There was no significant difference in the magnesium level between the male and female patients. Moreover, no significant difference was observed among the administrations of various dialysis solutions including dextrose 1.5%, 2.5%, and 4.25% as well as Icodextrin 7.5%. However, hypertension had a significant inverse relationship with magnesium level ($P < .05$).

Conclusion. According to the results of the present study, the magnesium level was normal in peritoneal dialysis patients. However, hypertension had a significant reverse effect on magnesium level, which was lower in hypertensive patients.

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Expression Levels of MicroRNA-193 in Plasma and Peripheral Blood Cells of Adult Patients with Primary Nephrotic Syndrome

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Introduction. MicroRNAs (miRNAs), small non-coding and regulatory RNAs, are present in cells and body fluids and may serve as potential disease biomarkers.
Methods. Here, we supposed to determine the miR-193 expression levels in patients with primary nephrotic syndrome (PNS) and assay its clinical diagnosis/ prognosis value. PNS patients (n = 60) and healthy volunteers (n = 24) without any remarkable disorder were included in this study.
Results. The expression level of miR-193 was evaluated in plasma and peripheral blood mononuclear cell using quantitative PCR. A significant decrease was observed in plasma levels of miR-193 in the PNS group when compared to controls ($P < 0.05$). However, no statistically significant difference was detected between the studied groups in peripheral blood cells. Circulating miR-193 could discriminate PNS patients from controls with Area under the curve (AUC) 0.62.
Conclusion. The result showed that diminished levels of miR-193 may be associated with NS pathology, however; more investigation should be performed to upgrade the existing consequences.

162 Dysregulated Levels of MicroRNA-30a in Blood Samples of Nephrotic Syndrome Patients

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Introduction. Nephrotic Syndrome (NS) is a prevalent renal disorder identified by proteinuria. MicroRNAs are 20 to 22 nucleotides tiny non-coding RNAs and involve in the pathogenesis of different diseases.
Methods. Here, alterations of miR-30a were evaluated in blood samples of NS patients. Sixty NS patients (including 30 MGN (membranous glomerulonephritis) and 30 FSGS (focal segmental glomerulosclerosis) patients), and 24 healthy controls were included in this study. Expression levels of miR-30a were evaluated in plasma and peripheral blood mononuclear cell by real-time PCR. U6 and Snord-47 were used as internal controls in plasma and PBMC samples, respectively.
Results. MicroRNA-30a levels of NS group were decreased in plasma ($P > .05$) and increased in PBMCs ($P > .05$) compared to controls, but they were not statistically significant. Moreover, an increase in miR-30a expression was detected in PBMCs of MGN group when compared to FSGS ($P < .05$) and controls ($P > .05$).
Conclusion. MicroRNA-30a may play a role in pathogenesis of NS and present diagnostic significance, but this study must be expand in large sample size to validate its diagnostic and prognostic values.

163 Comparison of High-flux and Low-flux High Efficiency Filters on Dialysis Adequacy

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Introduction. Hemodialysis is the most commonly used method for treatment of patients with chronic renal failure. On the other hand, given that dialysis adequacy is a crucial factor in determining the quality of life of these patients. Inadequate dialysis can increase mortality in these patients. It seems important considering dialysis adequacy and efforts to improve it. Several methods are used to measure dialysis adequacy, the most common being kt/v. Since high-flux filters are not always available and costly, the present study aimed to determine the adequacy of dialysis by kt/v method and to compare kt/v obtained using high-flux and low-flux high eficency filters.
Methods. This study was a cross-sectional clinical trial in which 46 patients from Isfahan hemodialysis center were evaluated. Each patient underwent hemodialysis for 4 sessions with high-flux filters, 4 sessions with low-flux high eficency filters with higher cross sectional area, and dialysis adequacy was measured by kt/v at each session. The results were analyzed by ANOVA with repeated observations, LSD and paired t-test.
Results. There was a statistically significant difference between the mean of dialysis adequacy in the use of low-flux high eficency filters ($P < .05$).
Conclusion. The use of low-flux high eficency filters at higher cross-sections increased the efficiency of dialysis due to the use of high-flux filters. Therefore, this method is recommended.

164 Common Etiologies of Hypernatremia and Current Analytic Approaches Used at University Health Network Hospitals

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Introduction. Hypernatremia is a common electrolyte disorder in hospitalized patients with high mortality rates. Practitioners and trainees consider decreased free water intake or extra-renal free water losses as the main etiologies, therefore; frequently required investigations are not deemed necessary. Diabetes insipidus (DI) and osmotic-induced diuresis (OID) are particularly overlooked. We conducted a study to evaluate the laboratory investigations ordered by clinicians to properly determine underlying etiology of hypernatremia.

Methods. In a retrospective study, 283 charts of patients with a serum sodium concentration > 150 mmol/L investigated for completion of serum electrolytes and osmolality, urine electrolytes, osmolality, urea, and creatinine measurements. Additionally, the plausible etiologies and treatment of hypernatremia were examined.

Results. In a preliminary analysis, serum osmolality was measured in 35% of the cases, urine osmolality in 28%, urine electrolytes measured in 48%, and urine urea and creatinine only in 5%. Only 36% of cases had completed investigations. Among those who had complete investigations, 17% were diagnosed as DI (9% central, 8% Nephrogenic), 26% as OID, 23% of cases combination of concentration defect with inadequate access to free water, and 13% of cases had a combination of partial DI with renal failure, 21% remained unclassified.

Conclusion. Only 1/3 of hypernatremic patients were assessed appropriately. There were poor correlation between the severity of hypernatremia and the number of investigations ordered. This study signifies the trainees' knowledge gap in the pathophysiology of hypernatremia. The common etiologies of hypernatremia are DI, OID, and a combination of renal insufficiency with concentrating defect and inadequate access to free water.

165 Common Etiologies of Peri-Operative Hypertensive Urgencies in CKD and ESRD (CKD/ESRD) Patients at University Health Network (UHN) Hospitals

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Introduction. There has been a mounting prevalence in CKD/ESRD population in recent decades. They represent a certain subgroup of patients undergoing surgery with substantial risk of perioperative hypertension (HTN). Common etiologies of Peri-operative HTN in ESRD/CKD patients includes, pre-existing uncontrolled HTN and volume overload, medication withdrawal, generous intraoperative IV-fluid (IVF) therapy, renovascular compromise or use of vasoactive medications intraoperatively. To identify the common etiologies and risk factors of peri-operative hypertensive crises in CKD/ESRD patients at UHN hospitals.

Methods. A retrospective observational study using data between 2015 and 2019, found 295 patients who had noncardiac surgery with perioperative hypertensive urgency. Among those patients, 109 (37%) patients had CKD/ESRD. Their charts were reviewed to analyze the etiology of peri-operative hypertension urgency.

Results. Our preliminary results is suggestive of signs of post-operative volume overload in 64% of CKD/ESRD patients by clinical findings or weight gain postoperatively (compare to their dry-weight ($P < .05$). Liberal IVF therapy was evident in 39% of patients (the mean intraoperative IVF 1045 ± 465 mL/h). Early post-op dialysis was required in 85% of cases. Pre-operative dialysis within one day of surgery was arranged only in 11% of ESRD patients. Acute coronary events preceded HTN in 13% of cases. Pre-op uncontrolled HTN was found in 67% of cases. Post-operative complications seen in these patients included myocardial infarction (14%), intracerebral hemorrhage (3%), acute pulmonary edema (16%), and acute on chronic renal failure (49%).

Conclusion. Peri-operative volume overload in CKD/ESRD patients associates and possibly the cause of hypertensive urgency in a relatively significant number of patients. Adequate treatment of HTN and hypervolemia prior to surgery is critical in preventing HTN crises and perhaps its complications. More frequent and prolonged sessions of hemodialysis in terminal CKD and ESRD individuals preoperatively could optimize the volume status and stringent fluid management during surgery for such patients.

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Evaluation of Medical Treatment in Children With Nephrolithiasis

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Introduction. Metabolic abnormality is the main cause of nephrolithiasis in children. Therefore, evaluation and medical treatment of renal stones have been suggested as an alternative to surgical approaches.
Methods. About 300 children (408 renal units) with nephrolithiasis were treated for underlying metabolic abnormality, and followed by serial ultrasound for average 2.5 years. Improvement was defined as stone resolution, stone passage or decrease in stone dimension.
Results. Mean age at diagnosis was 28.7 ± 2.6 months (1 to 150 months), and males were relatively predominant (1.1/1). Majority of them presented with abdominal pain and dysuria. About 78.8% of patients had metabolic abnormality, with hypercalciuria (51.7%), and hypocitraturia (33.4%) as the most common causes; respectively. Resolution occurred in 89.7% of patients after 1 year follow-up, more common in children younger than 5 years old ($P < .05$), and renal stones smaller than 5 mm ($P < .001$). About 87.5% of larger than 5 mm renal stones improved with medical treatment. Eight percents of patients had recurrent nephrolithiasis during 4 years follow up. Complete resolving of ≥ 5 mm stones in first year was 48.1% in compare with 80.7% in less than 5 mm stones ($P < .05$). Complete resolving found in 69.6% and decreasing in sizes in 21.4% in the end of our follow-up duration.
Conclusion. Pharmacologic treatment is recommended in young children with small nephrolithiasis, and could be considered primarily in large stones, prior to invasive surgical procedures.

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A Comparison of Tacrolimus and Cyclosporine for Immunosuppression After Renal Transplantation in Children, A Meta-Analysis and Systematic Review

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Introduction. There are some randomized trials which have already evaluated different calcineurin inhibitors (CNIs), especially comparing tacrolimus and cyclosporine, as immunosuppressant agents in children. However, their findings have been sometimes conflicting and thus debatable. Therefore, the evidence on safety and efficacy of immunosuppressive therapy for kidney transplant in children has been inconclusive and debated to date. This study is aimed to compare the benefits and harms of tacrolimus versus cyclosporine as the primary immunosuppression after renal transplantation in children.

Methods. A systematic review and meta-analysis were done. An electronic literature search was conducted to identify appropriate trial studies. The outcomes were presented as relative risk, with 95% confidence intervals (CI).

Results. Six eligible randomized controlled trials were included in this systematic review. Tacrolimus was insignificantly superior to cyclosporine considering the total effect size of graft loss (RR = 0.665, 95% CI: 0.397 - 1.114; $P > .05$) and acute rejection (RR = 0.786, 95% CI: 0.590 – 1.047; $P > .05$). On the contrary, cyclosporine seemed to be insignificantly superior to tacrolimus with regard to mortality (RR = 1.058, 95% CI: 0.589 - 1.900; $P > .05$).

Conclusion. Admitting the study limitations mainly because of the nature and case study size of the included trials, our systematic review conveys the conclusion that tacrolimus seems significantly superior to cyclosporine respecting graft loss and acute rejection. However, cyclosporine was shown to be significantly superior regarding mortality rate. Additional studies with a larger size are however recommended.

168 Hyponatremia Induced Convulsion Due to Colonoscopy Preparation in a 90 Years Old Female

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Introduction. Acute and severe hyponatremia induced by some drugs such as those used for colon preparation before colonoscopy is a serious and uncommon disorder that may be fatal. In this case we report a patient while taking polyethylene glycol (PEG) before colonoscopy, developed severe hyponatremia and convulsion.

Case Report. A ninety one years old female was admitted to hospital for evaluation of severe anemia. She had history of atrial fibrillation and hypertension and using sertraline, spironolactone, metoprolo, and furosemide; with serum sodium 141 meq/L, potassium 5.3 meq/L, creatinine 1.6, and hemoglobin 6.6 g/dL. She received transfusion and hemoglobin reached to 11 g/dL and blood pressure was 120/80 mmHg. During hospitalization, she was ordered to take 4 boxes of PEG with 4 liters of water during 48 hours. She had low salt diet and clear oral fluid intake. One day later she developed convulsion and coma. Her serum sodium was 115, potassium 3.6, and creatinine 1.2 mg/dL. Immediately, she received anticonvulsive therapy; and 1 liter of normal saline with 50 mL of 5% Na hypertonic every 12 hours began, as discontinuing PEG, furosemide, and sertraline. Her serum sodium slowly increased and after one day loss of consciousness. She became confused and drowsy with slurred speech, then became completely conscious and with serum sodium 134 meq/L was discharged.

Conclusion. Hyponatremia can be induced by polyethylene glycol for bowel preparation especially in old patients with low or borderline GFR in association with medications such as selective serotonin reuptake inhibitors. Regular serum sodium measurement may be indicated in old patients receiving colon preparation.

169 Levels of Parathyroid Hormone and FGF23 in Various Stages of Pediatric Patients with CKD

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Introduction. Several studies showed the association of high levels of fibroblast growth factor (FGF) 23 and parathormone with increased risk of bone disease in CKD.

Methods. In this cross-sectional study, three groups of children; consisted of 24 children with early stage of CKD, 40 with late stage of CKD (stage V, end-stage kidney diseas), and 21 healthy children enrolled to the study. Patient selection was based on random sampling method. Serum calcium, phosphate, intact parathyroid hormone (iPTH), FGF23, and serum creatinine levels and also GFR were measured using standard assays.

Results. This study showed a significantly higher parathyroid hormone (PTH) level in the ESRD group in comparison with the early stage of CKD and control groups ($P < .001$). Likewise, a significant difference of phosphorus between the phosphorus with serum levels of FGF23 in the hemodialysis patients ($P < .05$) was seen, while this association in the early stage of CKD was absent ($P > .05$). According to the results of the receiver operating characteristic (ROC) curve, serum FGF23 was not an appropriate prognostic index for GFR in pediatric patients with CKD ($P > 0.05$) (sensitivity 40.8, specificity 83.3, cut off point 134.72). Meanwhile, the top of ROC curve shows, iPTH had acceptable sensitivity and specificity for determining different stages of CKD (sensitivity = 100, specificity = 97.2, cutoff point = 100.7; $P < .001$).

Conclusion. FGF23 is not an appropriate prognostic tool in pediatric patients with early stage of CKD, however; iPTH had an acceptable sensitivity and specificity to determine various stages of CKD.

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The Incidence of Malignancy and Its Related Factors in Patients Undergoing Kidney Transplantation

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Introduction. Renal transplantation is considered as the treatment of choice for patients with ESRD. The underlying causes of death among renal transplant recipients have changed from early immunologic and nonimmunological failure to cardiovascular disease and malignancy. In this study we evaluated the incidence of malignancy and its related factors in renal transplant patients in Razi hospital, Rasht, Iran; over a period of 10 years.

Methods. In this retrospective study, 549 patients who underwent renal transplantation surgery in Razi hospital between 2008 and 2019 were studied. Demographic and clinical characteristics of patients and other required information were recorded in a checklist. Required patient information was obtained from the case of pre- and post-transplant and outpatient follow-up.

Results. In this study, it was found that only the patient's age at the time of renal transplantation in recipients of intervention has a confounding and additive role in incidence of malignancy after transplantation ($P < .001$). It was also found that there was no statistically significant relationship between sex of patients, current smoking status, smoking history, family history of malignancy, number of transplants, post-transplant survival, sun exposure, transplant rejection history, patient follow-up, occupational status, the use of daclizumab (Zenapax ATG) induction, and incidence of malignancy after kidney transplantation. Estimates of standardized incidence ratio showed that the incidence of malignancy in kidney transplant recipients was 26.9 higher than the incidence rate in Guilan province and 21.7 higher than the incidence of malignancy in the country. The incidence rate of cancer in kidney transplant patients is 26.9 times higher than Guilan province rate (95% CI: 19.7 - 35.9) and 21.7 times higher than national rate (95% CI: 15.9 - 28.9). In this study, the incidence rate of cancer is 792 per 100000-person year.

Conclusion. In this study, it was found that only the patient's age at the time of kidney transplantation has a confounding and increasing role in the incidence of post-transplant malignancy. It has also been shown that the most common malignancy in these patients is non-melanoma skin malignancy and the most common form is Kaposi's sarcoma.

171 One Year Survival of the Transplanted Kidney and Its Relevant Factors in the Patients Undergone Renal Transplantation from Cadaveric Donors

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Introduction. Renal transplantation is the modality of choice for renal replacement therapy in the majority of ESRD patients and several researches have been done to determine the role of a variety of factors influencing the transplanted kidney survival till now to develop and increase it. This research has surveyed one year survival of the transplanted kidney in the patients who were undergone renal transplantation from cadaveric donors and its related factors in Razi hospital.

Methods. All kidney transplanted recipients from cadaveric donors (n = 93) from 2014 to 2019 were studied. The demographic data were obtained. Then 1 and 2 years survival have been analyzed with "Analysis Survival Data". The kaplan-meier curve was drawn to show the survival and the log rank test was done in order to survey the qualitative variants. The logistic and cox regression models were used to determine the survival related factors.

Results. In this study, 1-year survival was 97.6% ± 1.3 and 2-year survival was 90.1% ± 3.9. The Body Mass Index and Delayed Graft Function were negatively correlated with graft survival and the recipient's age was positively correlated with it.

Conclusion. One-year survival in this study compared with a multicenter study in USA showed appropriate situation in this center. Also, the results of the effect of Body Mass Index and Delayed Graft Function are same to the other studies.

172 Rectal Diffuse Large B Cell Lymphoma in a Renal Transplant Recipient, a Case Report

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Introduction. Post-transplant lymphomoprolifrative disorder (PTLD) is rare complication in kidney transplant patients. The principal risk factors underlying the development of PTLD are the degree of T cell immunosuppression and EBV serostatus of the recipient

Case Reprt. We describe a case of a 63-year old renal transplant recipient man with rectal lymphoma ten years post transplant that manifested by vague right lower abdominal pain and anal fistula with purulent discharge. The recipient had received a kidney from a deceased donor. The cause of kidney failure was hypertention. The maintenance immunosuppressive therapy consisted of cyclosporine, steroid, and mycophenolate mofetil. The patient had no symptoms or complaints until 5 months ago, then urgent procedures (laboratory diagnostics, abdominal ultrasonography, computed tomography) and colonoscopy were done. He was operated and pathologic study revealed diffusely infiltrated sheets of neoplastic cells having round, hyperchromatic nucleus, and imunostaing consistent with diffuse large B cell lymphoma. Immunosuppressants were drastically reduced and the patient received chemotherapy.

Conclusion. PTLD comprises a wide spectrum of lymphoid and plasmacytic proliferations occurring after solid organ transplantation or allogeneic HSCT. The incidence of PTLD has clearly increased during the last decade.This increase can be explained by several reasons, including the use of more potent immune suppression, the older age of both donor and recipient, the increased use of haploidentical HSCT, the increased awareness, and the prompt request for a biopsy in the case of PTLD suspicion. Moreover, diagnosis of PTLD is not always straightforward. While the risk of cancers is increased in transplant patients, PTLD incidence is high in first year post transplant but to the best of our knowledge the rectal diffuse large B cell lymphoma is very rare in a renal transplant recipients and it should be kept in mind.

173 Simultaneous Detection of Opportunistic Viral Infections Among Renal Transplant Patients from Sina Hospital, Tehran

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Introduction. A proportion of renal transplant (RT) recipients are at high risk for acquisition of opportunistic infections

Methods. A total of 101 plasma and urine specimens were collected from RT patients with raised plasma creatinine. These were tested for three common viral pathogens under suspicion of post-transplant nephropathy.

Results. A total of 19 (18.8%), 15 (14.8%), and 10 (9.9%) tested positive for BK virus, cytomegalovirus, and EBV in their plasma and/or urine; respectively. Out of the 19 BK virus positive patients, 12 (63%) were in the tested plasma samples and 17 (89%) were in the urine samples. Four asymptomatic patients had high levels of EBV shedding in their urine. No co-infected patients showed nephropathy.

Conclusion. Relying on plasma creatinine rising levels alone may be an unreliable indicator for evaluating opportunistic viral infections in post-transplant RT subjects.

174 Corelation Between Phospholipase A2R Ab and Severity of Primary Membranous GN

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Introduction. Membranous GN is an important cause of renal failure and prompt diagnosis and treatment is important to reduce the burden. Hence, this study was performed to determine the diagnostic accuracy anti-phospholipase A2 receptor antibody for diagnosis of membranous GN and correlation between level of PLA2R (phospholipase A2 Receptor) Ab and severity of primary membranous GN.

Methods. In this cross-sectional descriptive comparative study, 28 patients with membranous GN and 12 cases with without membranous GN in private office and Velayat clinic in Qazvin in 2016 and 2017 were enrolled. The results of anti- PLA2R antibody in them was assessed and compared across the groups. In patients with primary membranous GN proteinuria and types of cytotoxic therapy for control of GN were evaluated.

Results. The results of anti- PLA2R antibody in those with and without membranous GN were positive in 50% and 8.3%, respectively; with significant difference ($P < .05$). Sensitivity, specificity, PPV, and NPV was 50%, 91.7%, 93.3%, and 44%; respectively. The accuracy was 62.5%. There was no corelation between level of PLA2R Ab and severity of proteinuria and also type of cytotoxic regimen.

Conclusion. Totally, it is concluded that anti- PLA2R antibody has moderate diagnostic accuracy in membranous GN but high specificity versus sensitivity propose the use for ruling out the diagnosis. PLA2R Ab dose not predict severity of primary membranous GN.

175 Assessment of the Frequency of Latent Tuberculosis in Hemodialysis patients in Khoramabad, 2018

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Introduction. The prevalence of CKD is estimated to be between 8% to 16% of the general population worldwide and has been increasing in recent years. Iran is an endemic region for tuberculosis. At present, the annual incidence of tuberculosis in Iran is about 11 in 100000 of general population. The risk of latent TB infection (LTBI) is high in dialysis patients, and these patients are several times more likely than the general population to develop active TB. According to the WHO guidelines, it is recommended to screen all dialysis patients for LTBI. The standard screening test for LTBI is the tuberculin skin test (TST).

Methods. All hemodialysis patients in the city of Khorramabad with no active TB were enrolled in the study. At first, history taking and physical examination were performed. In patients with cough and sputum, sputum smear was prepared for evaluation of active TB. Then, TST was performed for all patients by intradermal injection of 0.1 mL of tuberculin solution in the upper third of the anterior forearm. In subjects with positive PPD (> 10 mm), chest x-ray was requested. A pneumologist classified them for tuberculosis. Subjects with TST greater than 10 mm, normal chest x-ray, and no symptoms and signs of active TB were reported as LTBI.

Results. One hundred and twenty-nine patients were enrolled in the study. Fifty-one of the patients (39.5%) were female and 78 (60.5 %) were male. None of the 129 patients in the study had active TB but more than 80% had LTBI.

Conclusion. The prevalence of LTBI was significantly higher in men than in women. There was no significant relationship between LTBI and literacy level, place of residence (rural or urban), and diabetes. The prevalence of LTBI in hemodialysis patients is high. Early diagnosis and prophylactic treatment are recommended as the infection may become active TB.

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Relationship Between Nutrient Intakes and Sleep Quality in Hemodialysis Patients

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Introduction. Poor sleep quality is prevalent among ESRD patients receiving dialysis. Inadequate dietary behaviors are possibly one of the risk factors for poor sleep quality in dialysis patients. The aim of the present study was to assess the association between sleep quality and dietary intake of nutrients in hemodialysis patients.

Methods. Totally, 160 hemodialysis patients comprising 106 males and 54 females included in this cross-sectional study. A semi-quantitative 168- item food frequency questionnaire (FFQ) was used for assessing food intake in hemodialysis patients. To measure sleep quality in hemodialysis patients a Persian validated version of Pittsburgh sleep quality index (PSQI) was used. Patients were categorized as good and poor sleepers with a PSQI score of < 5 and > 5, respectively.

Results. Nearly, 84% of hemodialysis patients were poor sleepers. There was a significant difference between good and poor sleepers in terms of age and educational status ($P < .001$). We could not find any significant difference in the intake of macro- and micronutrients between two groups ($P > .05$).

Conclusion. According to our results there was not any significant association between nutrients intake and sleep quality in hemodialysis patients. Although, further large-scale studies are necessary to explore the association between nutrients intake and sleep quality among hemodialysis patients.

177 Risk Factors Analysis for AKI in the Newborn Infants, Predictive Strategies

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Introduction. AKI in the newborn infants is associated with increased mortality and morbidity. The purpose of this study was to investigate the prevalence, risk factors, and outcome of AKI in the premature neonates.
Methods. Between January 2014 and January 2015, 206 premature neonates between 27 and 36 weeks gestations were studied in the newborn intensive care unit of Amir-AL Momenin hospital, in Semnan, Iran. All neonates were followed-up for seven days after birth. The diagnosis of AKI was based on urine output (UOP) < 1.5 mL/kg/h for 24 hours and serum creatinine SCr > 0.3 mg/dL or increased by 150% to 200% from baseline value. Data collected included gestational age, gender, birth weight, first, and fifthminutes apgar scores, use of mechanical ventilation, continuous positive airway pressure (CPAP), sepsis, congenital heart disease, and respiratory distress syndrome (RDS).
Results. Gestational age (OR = 12.09, 95% CI = 3.51 - 41.63; $P < .001$), the use of mechanical ventilation (OR = 6.72, 95% CI = 1.44 -31.41; $P < .05$), and the first and fifth minutes apgar scores (OR = 0.65, 95% CI = 0.44 - 0.95; $P < .05$) were significantly related with AKI occurrence. Presence of congenital heart disease, sepsis, birth weight, and RDS also had a significant relationship with AKI development ($P < .05$).
Conclusion. The most important risk factors associated with AKI development were prematurity and low-birth weight, low 1 and 5 minutes apgar scores, and the need for mechanical ventilation, as well as the coexistent of sepsis.

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Health-Related Quality of Life Assessment in Hemodialysis Patients

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Introduction. Health-related quality of life (HRQOL) is defined as the health status in physical, social, and mental domains. Despite improvements in the treatment of ESRD, the level of (HRQOL) is much lower than general population. Purpose of study is Assessment of ESRD Patients in hemodialysis patients (Lorestan province, Iran).

Methods. We measured HRQOL among 72 patients on dialysis by kidney disease quality of life-short form (KDQOL-SF) questionnaire. Results were analyzed by SPSS software and www.SF-36.org/tools/sf36.shtml.

Results. 44 out of patients were male, and 54 out of patients were married. Most of patients were disabled (80.1%). Mean kidney disease component summary was 54.9 ± 10.8. General component summary was 38.44 ± 14.2. General health and pain score was 58.6 and 52.5, respectively. Score of encouragement and quality of social function were 75.7.

Conclusion. There are no significant differences between our study and others. Attention should be given to psychosocial and medical interventions. The findings of this Study can assist providers in planning and implementing educational and Support programs for patients and their family. We need to great study in Iran (all dialysis wards) for better management.

179 Simultaneous Multiple Bone Fractures in ESRD Patient with Renal Osteodystrophy

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Introduction. Mineral bone disorders are wide spread in patients with CKD and are correlated with various clinical presentations comprise bone pain and fracture. Because of under management of CKD-mineral bone disorder (CKD-MBD) in some patients due to controversy in clinical and biochemical target of CKD, some patients refer with fractures and other complications of CKD-MBD. Although pathologic fractures are common in patients with advanced stages of CKD but multiple bone fractures comprise bilateral femoral bone fractures was rarely reported. That is the main reason for reporting this relatively young patient with ESRD on dialysis with multiple fractures after seizure due to high turnover bone disease.

Case Report. A 40 years old man with ESRD on hemodialysis since 1.5 years ago was admitted in emergency department because of generalized bone pain and inability to stand up and move and some degree of confusion with a history of total parathyroidectomy. After surgery he was treated with calcium supplement and vitamin D but he ceased his treatment 10 days before admission. At the time of admission, he had severe limitation in lower extremities and hip movements and significant hypocalcemia. Imaging studies reveal multiple bone fractures consist of bilateral femoral neck fractures, fracture of body right scapula, and fracture of body L3, L4, and L5 vertebra. The constellation of the findings suggests multiple pathologic fracture in the context of renal osteodystrophy after an episode of seizure due to hypocalcemia.

Conclusion. It is pivotal that every patient with CKD should be evaluated for different aspects of CKD-MBD and receives appropriate treatment for hyperphosphatemia, hypocalcemia, and hyperparathyroidism to prevent the serious complications of MBD.

180 Screening for CKD in People Over 30 Years of Age Participating in Naqadeh IraPEN Program

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Introduction. CKD is one of the major health problems worldwide. The prevalence of CKD is projected to increase in the coming years. This study aimed to screen and determines the status of CKD in Naghadeh population over 30 years.

Methods. This cross-sectional study was conducted on population aged over 30 years who were cared for in Naqadeh IraPEN program. In the first phase, 3600 people were screened and in addition to the information collected in the IraPEN program, information on kidney disease history of the participants and their family was collected through interviews. Serum creatinine, glucose, hbA1c, urinary protein, and urinary albumin/creatinine ratio of the participants were determined. MDRD formula was used to calculate glomerular filtration rate.

Results. Of the screened 2141 (59.1%) were female. The mean (standard deviation) of participants' age were 49.9 (11.6) years. A History of hypertension and diabetes were reported by 24% and 7.7% of participants and 14% of them were smokers. In total, 14% had kidney stones, 1.8% had kidney cyst, 1.2% had kidney failure, 5.5% had protein in urine, and 7% had sugar in urine. Albumin to creatinine ratio between 30 to 300 and more than 300 were observed 10% and 1% of patients, respectively. In terms of stages of CKD, 8.7%, 63.7% 35.9% of the cases were in stage 1, stage 2, and stage 3; respectively. Only 0.5% was in stages 4 and 5. According to the CKD classification using GFR and albumin to creatinine ratio classes, 1.4% of participants were at high risk, 8.2% at high risk, and 33.1% at moderate risk for CKD.

Conclusion. The results showed that a significant proportion of the subjects in this study were at high risk and moderate risk for CKD. This study highlights the importance of screening programs, planning and implementing appropriate preventive and therapeutic measures to prevent CKD in the community.

181 ARBs Usage After Kidney Transplantion and Safety; a randomized, double-blinded placebo-controlled study

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Introduction. ESRD is chronic irreversible renal failure that needed renal replacement therapy and Kidney transplantation in most patiens is the best modality. In transplant centers improvement in graft and patient survival after transplantion is purpose. Angiotensin converting enzyme inhibitors (ACEIs) and angiotensin receptor blockers (ARBs) in CKD patients decrease in blood pressure, albuminuria, and glomerulosclerosis but data insufficient about their safety in kidney transplant recipients. Hyperkalemia and decrease in GFR are most worrisome. In this study we evaluate the safety of ARBs (losartan) in post transplant.

Methods. In this double blinded placebo control trial 70 candidates of first living kidney transplant from November 2013 to December 2015 in Labbafinejad hospital enrolment 24 were excluded only 54 patients randomly divided. 6 days after transplantion, 27 patients in group 1 recievied losartan 25 mg/d and group 2 placebo until 6 and 12 months post-transplant. Whole blood sample befor initiation of drug and 6 and 12 months later were collected. Kidney biopsy after 6 months in all patients were done.

Results. In 54 patients randomized, mean age of patients in losartan group was 42.84 ± 9.2 and in the control group was 35.22 ± 10.4 ($P > .05$). Mean donor age was not significantly different with the groups (31.47 vs. 26.66 years, $P > .05$). During the study, there were no significant differences in blood pressure, eGFR, potassium level, and hemoglobin level between the two groups. The difference in eGFR was not significant even at 12 months after transplantation (72.7 vs. 70.9 cc/min in case and control group, respectively; $P > .05$).

Conclusion. According to the results potassium, hemoglobin, AST, ALT, and GFR levels did not differ significantly between the groups. There is not different in graft failure incidence and death in groups. We can succefully use ARBs without risk in the post-kidney transplant period, and benefited from long-term beneficial effects on renal function.

182 Sirolimus Dose Requirement in Kidney Transplant Recipients in Isfahan

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Introduction. Sirolimus (rapamune) is an important immunosuppressive drug in kidney transplanted patients. The usual maintenance dose of sirolimus in these patients is 2 to 5 mg/d and its optimal trough level is 5 to15 ng/mL. The required sirolimus doses may differ markedly from patient to patient, due to the high inter and intra patient variability in its pharmacokinetics. There have been no studies in Iran on the correlation of sirolimus blood level and its target dose. This study has been done to show the target dose of sirolimus in kidney transplanted patients in Isfahan.

Methods. This is a longitudinal cross sectional study conducted from June 2018 to September 2019. The study population included all kidney transplanted patients treated with sirolimus in a nephrology private clinic. Demographic and other variables were extracted from patient's files since the beginning of sirolimus.

Results. 57 renal transplanted patients with mean age of 52.4 ± 13.2 and 75.4% male were included in the study. The mean starting dose of sirolimus in these patients was 2 ± 0.19 mg/d. There was more than 20% GFR improvement in 68% of the patients after changing the CNI to sirolimus ($P < .05$). The mean dose and blood level of sirolimus in patients with elevated GFR were 1.1 ± 0.44 mg/d and 8.45 ng/mL, respectively.

Conclusion. In a significant number of renal transplanted patients changing CNI to sirolimus accompanied by GFR improvement. Contrary to the recommended dose of sirolimus in the references (2 to 5 mg/d) Iranian kidney transplant recipients need lower daily doses of sirolimus (1.1 mg/d) to achieve the desired whole blood level. Further studies are recommended to confirm this dose of sirolimus.

183 Associations Between Hemoglobin and Mortality Rate in Hemodialysis Patients

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Introduction. A large number of studies have been carried out on the optimal hemoglobin (Hb) concentration in chronic hemodialysis patients. However, mortality risks in relation to Hb concentration is still not so clear. Our study has aimed to find out about this relationship and cut off points of Hb level for beginning or discontinuing anemia treatment in hemodialysis patients.

Methods. In this retrospective cohort study which is part of HD-MORF study (hemodialysis patients mortality risk factors), we collected five-year (September 2012 to September2017) data of 824 patients from six hemodialysis centers of our province. Kaplan-meier and cox regression analysis was used to find out if there is a correlation between Hb and survival rates. Receiver operating characteristic curve (ROC) analysis revealed predictive values of Hb.

Results. Patient's mean age was 57.92 ± 15.60 years and 61.8% was men. Mean duration follow up was 24.08 ± 17.91 month. Mean and median survival rate was 24.09 ± 0.62 month and 18.24 ± 0.49. Total mean Hb level was 11.54 g/dL (11.27 g/dL and 10.72 g/dL in survived and dead patients, $P < .001$). Significant association was observed between basal Hb and mean change of Hb during follow-up with survival both in crude model (HR = 1.61, 95% CI: 1.19 - 2.16; and HR = 1.98, 95% CI: 1.37 - 2.86; respectively) and after adjusting confounding variables (HR = 1.86, 95% CI: 1.34 - 2.60; and HR = 1.81, 95% CI: 1.19 - 2.76; respectively). Using ROC analysis, predictive value of mean change of Hb was significantly associated with survival (AUC: 0.61, 95% CI: 0.56 - 0.65) and had the most sensitivity (66.62% - 71.25%), and specificity (39.25% - 45.20%) in the Hb levels of 10.50 g/dL to 10.65 g/dL.

Conclusion. Hb levels lower than 10 g/dL significantly increases mortality risks in chronic hemodialysis patients. More studies are needed to know if it is beneficial to start anemia treatment in these patients at higher level of Hb, such as the amount our study provided (10.50 to 10.65 g/dL).

184 A De Novo AL Amyloidosis After Kidney Transplantation

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Introduction. Delayed beginning of proteinuria several years after kidney transplant can be as a result of transplant glomerulopathy, de novo or recurrent glomerular disease, diabetes mellitus and another uncommon causes. Proteinuria with de novo primary amyloidosis is very rare condition after kidney transplantation. AL amyloidosis occur alone or in association with multiple myeloma or other plasma cell dyscrasia. Because of rarity of this disorder we describe a case with heavy proteinuria after kidney transplantation with diagnosis of AL amyloidosis without previous history of amyloidosis and plasma cell dyscrasia. Kidney biopsy samples stained by H&E, PAS, trichrome and JMS method, Immunofluorescence staining for human monoclone kappa or Lambda light chain.

Case Report. A 74-year-old woman who has a history of kidney transplantation presented with heavy proteinuria. She received deceased donor kidney transplantation 7 years ago and his kidney function was stable during these years. She has no history of DM and hypertension. She referred because of peripheral edema and in evaluation for peripheral edema, urinary protein 7 gr/d was detected in 24-hour urine collection and her serum Alb and Cr level was 1.9 g/dL and 1.4 mg/dL; respectively. She was treated with tacrolimus, mycophenolate mofetil, prednisolone as a maintenance therapy. In an attempt to find out the reason of proteinuria, in urine and serum protein electrophoresis, abnormal band between Beta and Gamma and in immunotyping, IgG/lambda was detected. In kidney biopsy microscopic examination, Congo-red stain under polarized light showed apple green birefringence and immunofluorescence (IF) study displayed positive Lambda light chain staining (2+) in mesangium and arteries. Constellation of findings suggested renal primary (AL) amyloidosis, lambda light chain type.

Conclusion. AL amyloidosis should be considered as a possible cause of heavy proteinuria after kidney transplantation even though it is rare in this condition.

185 Associations Between Iron Indices and Mortality in Hemodialysis Patients

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Introduction. Iron deficiency anemia is a common diagnosis among chronic hemodialysis patients due to blood loss (during procedures or through gastrointestinal bleeding), lesser amount of absorbed iron in duodenum and enhanced iron demand due to erythropoietin therapy. The aim of this study is to evaluate the correlation of iron indices and mortality in hemodialysis patients in our province.

Methods. This is a five-year retrospective cohort study, which is part of HD-MORF study (Hemodialysis patients mortality risk factors), based on demographic and laboratory data of 824 patients from six hemodialysis centers in our province between september2012 and September 2017. Using kaplan-meier and cox regression models, data of both basal and mean changes of iron indices such as iron, ferritin, total iron binding capacity (TIBC) and transferrin saturation (TSAT) were analyzed to estimate survival and mortality rate in crude model and adjusted with confounding other survival predictors.

Results. Patient's mean age was 57.92 ± 15.60 years and 61.8% was men. 49.0% of our patients suffered from absolute Iron deficiency anemia (TSAT < 30% and ferritin < 500) and 19.0% of them had functional Iron deficiency anemia (TSAT < 30% and ferritin > 500). Mean changes of TIBC more than 370 mg/dL in crude was significantly associated with mortality risks (HR = 1.87, 95% CI for HR: 1.30 -2.70). After adjusting confounding variables mean Iron levels less than 50 µg/mL (HR = 3.05, 95% CI for HR: 1.96 - 4.74) and mean TIBC levels more than 370 mg/dL (HR = 2.16, 95% CI for HR: 1.38 - 3.39), revealed significant association with mortality risks too.

Conclusion. Our data suggested that among iron indices, iron less than 50 µg/mL and TIBC greater than 370mg/dL significantly increase mortality risks in chronic hemodialysis patients.

186 Are There Any Relationship Between Leukocyte, Platelets Count, and Mortality Rate in Chronic Hemodialysis Patients?

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Introduction. Not only hemodialysis patients are susceptible to thrombocytopenia, but also studies suggested that thrombocytosis is a problem these patients can suffer from. These patients are susceptible to infections too which can lead to leukocytosis. This study is designed to evaluate (if there is) association between white blood cell (WBC) or platelet (PLT) counts and survival of chronic hemodialysis patients in our province.

Methods. In this retrospective cohort study, which is part of HD-MORF study (Hemodialysis patients mortality risk factors) we collected demographic and laboratory data of 824 hemodialysis patients from 6 hemodialysis centers in our province between September 2012 to September 2017.

Results. Mean age was 57.92 ± 15.60 years and 61.8% was men. Among all comorbidities and diseases lead to end stage renal disease, only diabetes mellitus (DM) had a significant association with survival rates ($P < .05$). Basal and mean WBC count was 7019.80 ± 2391.91 cells per cubic millimeter of blood and 7267.92 ± 3197.62 cells per cubic millimeter of blood. Basal and mean changes of PLT was 197930 ± 87200 per microliter and 190430 ± 62910 per microliter. Using Kaplan-Meier and cox regression estimators, basal and mean changes of WBC counts in both crude model and adjusting with confounding variables was not significantly associated with survival rate. Mean PLT count more than 450000 per microliter (thrombocytosis) in both crude model (HR = 8.75, 95% CI for HR: 2.12 - 36.09) and after adjusting with the confounding variables (HR = 6.95, 95% CI for HR: 1.01 - 51.83) was significantly associated with patients survival rate.

Conclusion. Our study suggested that thrombocytosis (PLT count > 450000 per microliter) was significantly associated with mortality risks in hemodialysis patients. No significant association was observed between WBC count and mortality.

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