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Abstracts

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18th International Congress of Nephrology, Dialysis, and Transplantation

1239 Investigating the Relationship Between Red cell Distribution Width & Serum Level of Fibroblast Growth Factor 23 in Hemodialysis Patients

Elham Ramezanzadeh, Masoud Khosravy, Masume Namdar

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Introduction. End-stage Renal Disease is a destructive problem that lies in the medical, social, and economic areas requiring health care and careful follow-up. Also, because of high morbidity and high mortality, and economic and social side effects, it is a fundamental health problem in the community. People with kidney disease, which are under hemodialysis treatment, suffer numerous pathological processes simultaneously with kidney disease, many of which are related to each other considering their mechanism. Cardio-renal syndrome, that is the simultaneity of chronic kidney disease and chronic heart failure, is closely related with high death rates. The significant risk factors include measures associated with red cells like red cell distribution width (RDW) and anemia,5 as well as mineral metabolism markers, particularly fibroblast growth factor 23. FGF23 is a factor in blood flow produced by osteocytes and remarkably contributes to systemic phosphate hemostasis and vitamin D metabolism.7 In chronic kidney patients, the fibroblast growth factor 23 is a sensitive biomarker for impaired renal phosphate regulation so that its levels are increased in the early stages of renal dysfunction to help glomerular filtration and increase phosphorus excretion through urination.8 High levels of FGF23 are associated with mortality in people with end stage renal disease (ESRD) and are inversely related to glomerular filtration rate. Also, increased FGF23 is linked with left ventricular hypertrophy in people with moderate to severe kidney disease.9 In the study, Gutierrez et al. confirmed that with decreasing glomerular secretion under 60 mm/min, FGF23 levels increase; this increase happens before other symptoms related to the non - natural state of minerals are created and independent of the amount of serum phosphate changes. The results indicate the relationship between higher level of FGF23 and cardiovascular calcification and mortality in dialysis patients. To obtain Red cell distribution width, as a quantitative marker of variability of erythrocyte size, the standard deviation of the erythrocyte size is divided by Mean Corpuscular Volume (MCV). RDW is a strong indicator of adverse clinical outcomes in patients with acute and chronic heart failure,10-13 coronary artery disease,14 and acute kidney injury.15 RDW is usually used to diagnose anemia, especially iron deficiency anemia. In addition, RDW is a prognostic marker for cardiovascular disease (CV) as well as the rate of death in different diseases such as diabetes, heart failure, stroke, and coronary artery disease, and in groups based on the general population.16 Recently, it has been shown that

data RDW indicates well-documented malnutrition and inflammation, which raises the risk of cardiovascular complications and mortality in dialysis patients.

Methods. This sectional study was conducted on 254 ESRD patients under hemodialysis treatment. The sampling method was a census so that all ESRD patients undergoing hemodialysis in Razi hospital in Rasht city, Iran, in the year 2017 were studied. The clinical study was reviewed and approved by the ethics committee of the Guilan University of Medical Sciences, Iran and was performed in accordance with the Declaration of Helsinki. Informed consent was obtained from patients. The exclusion criteria: 1) Patients with Decompensated Heart Failure were accompanied by intensified edema, asthma, and heartbeat, 2) Active enteric bleeding, 3) Acute liver failure, 4) Myocardial Infarction, 5) Stroke, and 6) Patients were undergoing dialysis for less than three months. Demographic information about the patient's age, sex, BMI, history of smoking, history of hypertension, diabetes, and duration of dialysis were extracted from patients' records using the relevant form. 2.2 Measurement of Parathyroid Hormone (PTH), Mineral Factors (P, Ca), and 25- Hydroxyvitamin D in Patients Ca and phosphorus (P) were measured in each patient's blood sample before dialysis using auditing kits; PTH with Siemens kits from Siemens Company, China; and 25- 6 hydroxyvitamin D was determined using the ELFA method (enzyme-linked fluorescent assay)

Results. Demographic, clinical, and laboratory data of 254 patients are summarized in Table 1. The median age was 60 years (IQR 49- 69), and 57.9% were male (Table 1). Only 10.6% of the study patients were smokers, and the dialysis time was 47.2 ± 51 months. 40.9% of the people in the study had diabetes, and 73.8% had hypertension. The mean of the Kt/V index was 1.3 ± 0.36, the minimum amount was 0.18, and the maximum amount was 2.46. The mean difference in weight between the two sessions of dialysis was 2.22 ± 1 kg. In the body mass index (BMI) analysis, most samples (50.84%) were in the normal range, 27.31% were overweight, 15.13% were in class 1 obesity, and 4.2% in the range of class 2 obesity. The mean RDW value was 15.6 ± 2.3%. Furthermore, the mean and median of iFGF23 in patients were 59.5 ± 14.6 and 62 (IQR 49-69) pg/ml, respectively. Demographic, clinical, and biochemical characteristics of patients The Mann - Whitney U test showed that the amount of iFGF23 in the subgroup of sex (P = 0.026), diabetes (P = 0.05), and hypertension (P = 0.047) variables was statically significant, as the mean and median of iFGF23 in women undergoing dialysis were more significant than men. Also, the mean and median of iFGF23 in diabetic patients and patients with hypertension were more significant than those without diabetes and hypertension.

Conclusion. In this study, RDW as one of the Predictors of iFGF23 factor changes was identified, which is essential in using RDW as a cheap and available marker to determine the prognosis of ESRD patients undergoing hemodialysis.

1247 The Effect of Probiotics Supplementation on Inflammatory Factors, and Oxidative Stress in Children Were Placed on Hemodialysis: A Double Blind Clinical Trial

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Introduction. Several studies showed that probiotics has several beneficial effects in different diseases especially inflammatory diseases. However preliminary search in pediatrics did not show any conducted study in this context. The aim of this study was the evaluation of probiotic supplementation on inflammatory biomarkers.

Methods. The present study was a double-blind randomized clinical trial performed on children undergoing hemodialysis in the dialysis unit of Dr. Sheikh Hospital. After confirming the inclusion and exclusion criteria of a number of patients due to having exclusion criteria, 31 patients were finally included in the study, of which 15 were in the target group and 16 in the control group. Patients in the target group used 500 mg probiotic tablets daily for 8 weeks containing one strain containing Lactobacillus casei, Lactobacillus acidophilus, Lactobacillus rhamnosus, Lactobacillus bulgaricus, Bifidobacterium breve, Bifidobacterium longum and Streptococc 9 in Streptococc. Also, placebo tablets with exactly the same dosage of the target ointment, with the same shape and size of probiotic tablets, were used in patients in the control group. Inflammatory factors include erythrocyte sedimentation rate (ESR), acute phase reactive protein (CRP), nuclear kappa B factor (Nf-kB) and Intercellular Adhesion Molecule 1 (ICAM-1) as well as other routine nosocomial factors. In both groups, probiotics and placebo were measured before and up to one week after the end of the 8-week course.

Results. Patients enrolled in the study included, 10 girls (32%) and 21 boys (68%) and the age range was 3 to 18 years. The mean age of patients in the control group was 12.31 ± 3.75 years and in the target group was 13.16 ± 3.6 years. In target group, probiotic administration resulted to a significant decrease in serum levels of creatinine ($P = 0.047$). On the hand serum triglyceride levels decreased significantly in target group ($P = 0.032$) and total chlosterol levels showed a significant decrease at the end of intervention ($P = 0.003$). Also significant decrease in serum CRP ($P = 0.036$) and Nf-kB levels ($P = 0.011$) compared with control group established. Changes in serum ESR and ICAM-1 levels were not significant.

Conclusion. Present study showed positive effects of probiotic supplementation on decreasing serum levels of inflammatory factors such as CRP and Nf-kB, creatinine and lipid profile on hemodialysis children. Further studies with higher sample sizes are needed to confirm our findings.

1262 Significantly Altered MicroRNA-16 Expression Levels in Patients with Nephrotic Syndrome

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Introduction. Nephrotic syndrome (NS) is a common inflammatory kidney disorder within proteinuria. Glucocorticoids are the first line treatment for NS patients. Moreover, microRNAs are small non-coding molecules that involve in regulation of gene expression at transcription or translation levels. According to involvement of microRNAs in regulation of treatment with glucocorticoids, the aim of study was to investigate of miR-16-5p expression level in patients with NS.

Methods. Blood samples of 60 patients with primary NS and 24 healthy volunteers were collected for evaluation of miR-16-5p expression level. Moreover, in-silico analysis was performed for more investigating of important signaling pathways and hubgens of the miR-16-5p.

Results. Obtained results showed that miR-16-5p expression levels in NS ($P = 0.022$) and FSGS ($P = 0.013$) patients were significantly decreased when compared to controls. In-silico analysis showed 10 dominant signaling pathway within 10 hubgen for microRNAs.

Conclusion. This study showed that although miR-16-5p expression levels significantly altered in PBMCs of NS patients in compared to healthy controls, but more studies should be performed for determining of diagnosis values. In-silico analysis approved that miR-16-16-5p may affect NS patients via targeting cell cycle and p53 gene.

1267 BK Virus Nephropathy in Pediatric Kidney Transplantation, Update

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Introduction. Although renal transplantation is optimal therapy for children with end-stage renal failure; there are many complications such as opportunistic infections which should be managed optimally to have better patient and graft survival. One of the most important infections is BK virus from polyomavirus families. Other viruses in this family such as Simian virus 40 (SV40) and JC are less important in pediatric transplantation.

Methods. In this presentation we discuss BK virus infection post renal transplantation and its complications in these patients; and present our latest experience in this regard. Between 1985 and 2018 Five hundred fifty children aged less than 15 years received renal transplantation in Labbafinejhad hospital. Routine immunosuppression consisted of Prednisolone, Cyclosporine A or Tacrolimus or Sirolimus and Mycophenolate Mofetil. Some patients received induction therapy with IL2-receptor blockers and ATG. Eleven patients received Basiliximab (Simulect) as adjunct induction therapy. BK Virus was tested in 106 urine samples from 73 transplant patients who were in regular follow-up by Polymerase Chain Reaction (PCR) and in blood if patient was symptomatic. Decoy cells were also tested in patients who had positive blood PCR and a dramatic rise in plasma creatinine. They were routinely followed and investigated for allograft function, acute rejection episodes, CMV and BK virus infection and one, three and five- and 10-year's patients and graft survival and end of follow-up.

Results. BK Virus particles were detected in 23 transplant children (22% of samples and 31% of patients) (21 in urine and 6 in blood) of whom 6 patients had Decoy cells in pathologic examination of urine and a dramatic rise in plasma creatinine (BKN: 8%). PCR examination of blood for BK Virus was tested in 40 patients and was positive in only 6 of these patients. Immunosuppressive medications were reduced as first step of treatment for 6 patients with BKN, it was effective in 5 patients presenting with reduction of plasma creatinine. Cidofovir was used for 4 patients which was partially effective leaving mean plasma creatinine of 0.9 mg/dl.

Conclusion. BK Virus Nephropathy should be considered as a cause of every allograft dysfunction in transplanted children.

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Acute Lung Injury Induced by Acute Kidney Injury: Impossible Roles of Toll-Like Receptor 2 and 4

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Introduction. Acute lung injury is a life-threatening effect of acute kidney injury (AKI) which causes high mortality. Toll-like receptors (TLRs) have an important role in the development of AKI. The typical animal models of AKI are bilateral ischemic reperfusion(BIR) and bilateral nephrectomy(BNX), which induced indirectly pulmonary disturbance by systemic complications.

Methods. Material and methods: Male Sprague–Dawley rats were divided into five groups (n = 8 in each group). The mesenchymal stem cells were purified of rat bone marrow, and were immediately injected (1×10^6, i.p) in the treated groups. The kidney and lung tissue, and blood samples were collected and saved after 24h in all groups. The expression of TLR2, TLR4, TNF-α, and VEGF was checked by RT-PCR in the tissue samples. Oxidative status was evaluated by measuring MDA level and SOD and CAT activity of tissues.

Results. Alveolar hemorrhage and vascular congestion observed in the lung tissue after BIR and BNX. The pulmonary mRNA expression of TLR2 and TLR4 but not TNF-α and VEGF up-regulated in the BIR and BNX groups compared with the sham group. Oxidative stress stabilized after the BIR and BNX in the tissue samples. BMSCs reduce the expression of TLR2 and TLR4 and oxidative stress in the treated groups.

Conclusion. Acutely gathering systemic mediators after AKI in the absence or damages of kidney induce ALI through overexpression of TLR2 and TLR4 and oxidative stress. Therefore, the Lung protective effect of BMSCs may be related to modulation of TLR2 and TLR4 and oxidative stress in the kidney and lung tissue.

1272 Renal and Electrolyte Abnormalities in Burned Patients

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Introduction. Annually, more than 300000 burned patients suffer and die from the burned injury caused morbidities, 95% of which, are from developing low income countries. According to the released data of legal medicine agency, burn injuries, follow car accidents and poisonings to be the third cause of death in traumatic patients. Therefore, we decided to conduct this study to accurately identify the risk factors, predicting factors, and lab tests associated with death, and the factors affecting the in-hospital mortality of burned patients in north-west of Iran.

Methods. In this study, we have indicated the essential death predicting and affecting factors among burned patients in 2019 in Sina hospital, to provide the clinicians with a better and more in-depth insight into burned cases and reported the most important parameters based on data gathered from 1167 patients admitted to a referral center of Burning and Plastic Surgery in north-west of Iran.

Results. Electrolyte disturbance was observed in 18.5% of admitted patients, and 83.3% of expired patients. Calcium level disturbance at the point of admission and during hospital stay was associated with higher rates of mortality and the mean calcium levels was higher among those who lived. ARF (Acute Renal Failure) has occurred in 2.7% of all patients and 33.3% of expired patients. The OR of the acute renal failure for mortality was calculated to be 77.714 ($P < 0.001$).

Conclusion. This study indicating the significant role of renal failure in death prediction among burned patients. Regarding the fact that electrolyte disturbance occurs in burned patients mostly due to the loss of the defensive skin barrier and the significant role of the kidney to tune the level of each electrolyte and work against the injury, renal failure could have increased the mortality risk through affecting the defensive mechanism of the kidney.

1273 Eplerenone Reduces Renal Ischemia/Reperfusion Injury Through Impacting NF-κB and PGC-1α Pathways

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Introduction. Acute kidney injury (AKI) is a sudden impairment in kidney function associated with high morbidity and mortality. This study aimed to evaluate the effects of eplerenone, an aldosterone receptor antagonist, on the kidney injury caused by ischemia/reperfusion (IR).
Methods. Rats were randomly allocated into four groups, including control, eplerenone, IR, and eplerenone+IR groups. Rats in the last group 1h before I/R induction, pretreated with eplerenone (100mg/kg) via gavage. Protein levels of PGC-1α along with antioxidant, apoptotic, inflammatory factors were evaluated in the kidney tissues of the experimental groups.
Results. Eplerenone pretreatment significantly could improve IR pathological damage and kidney function and increase the renal antioxidant factors compared to the IR group significantly ($P < 0.05$). Furthermore, in eplerenone-treated group, significant elevation of the PGC-1α at the protein level were identified compared to the IR group. Eplerenone pretreatment could not only downregulate NF-κB signaling and its downstream inflammatory factors including IL-6, COX-2, and TNF-α but also could decrease apoptotic factors.
Conclusion. The data recommended that eplerenone exerts a potent impact against kidney IRI by up-regulating PGC-1α to preserve mitochondrial function and cell survival. Moreover, it hinders renal inflammation by suppressing NF-κB signaling. These results offer insight into the prevention or treatment of AKI in the future.

1287 Evaluation of Telomeric KIR Genes and Their Association with CMV Infection and Acute Rejection in Kidney Transplant Recipients

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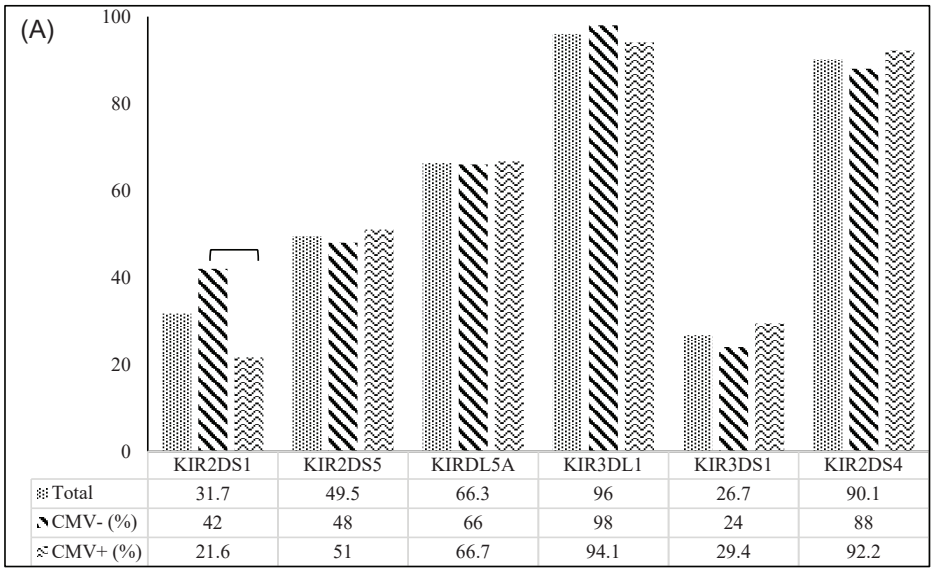
Introduction. Cytomegalovirus (CMV) infection is a common complication after organ transplantation. Natural killer cells remove the CMV-infected cells by killer-cell immunoglobulin-like receptors (KIRs). The presence of activating KIR genes may reduce the rate of CMV infection. We studied 101 kidney transplanted recipients to elucidate the correlation between number of inhibitory and activating genes and incidence of CMV infection in kidney transplanted recipients.

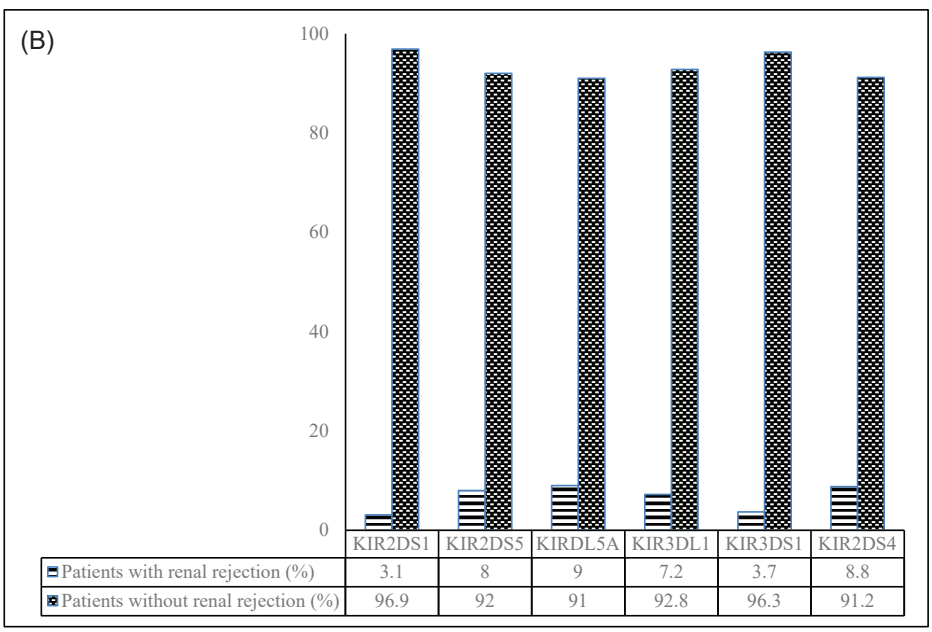
Methods. Kidney transplanted recipients including 51 CMV+ and 50 CMV- were identified and genotyped for the presence or absence of 4 activating (KIR2DS1, KIR2DS5, KIR3DS1, KIR2DS4) and 2 inhibitory (KIR3DL1, KIR2DL5a) genes using polymerase chain reaction sequence-specific primers (PCR-SSP) assay.

Results. Our results showed that CMV infection was occurred in 51 kidney transplanted patients (50.49%). In addition, there was a significant correlation between the presence of the KIR2DS2 activating gene, in the CMV- group (73.6%) compared to the CMV+ group (P = 0.033) (Figure).

Conclusion. Our results confirmed that the prevalence of KIR activating genes could inhibit the incidence of CMV infection after kidney transplantation.



	KIR2DS1	KIR2DS5	KIRDL5A	KIR3DL1	KIR3DS1	KIR2DS4
Total	31.7	49.5	66.3	96	26.7	90.1
CMV- (%)	42	48	66	98	24	88
CMV+ (%)	21.6	51	66.7	94.1	29.4	92.2



	KIR2DS1	KIR2DS5	KIRDL5A	KIR3DL1	KIR3DS1	KIR2DS4
Patients with renal rejection (%)	3.1	8	9	7.2	3.7	8.8
Patients without renal rejection (%)	96.9	92	91	92.8	96.3	91.2

Frequency of Each Six Tel KIR Genes (This figure provides general view for KIR gene cluster distribution among all patients in compared to patients with or without CMV infection (A) and renal rejection (B))

** Statistically significant difference

1312

The Incidence and Main Determinants of COVID-19 and Its Survival Among Patients Undergoing Peritoneal Dialysis: A Multi-center Study in Iran

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Introduction. Various studies have focused the incidence and main determinants of COVID-19 among patients undergoing hemodialysis, however the pointed correlates remain uncertain among those who undergoing peritoneal dialysis. The current study aimed to present a clear view of clinical prognosis and its determinants among patients under peritoneal dialysis with the diagnosis of COVID-19

Methods. The present multicenter study (including 14 dialysis centers in different areas of Iran) was performed on patients with renal failure under peritoneal dialysis. The patients were categorized as the patients suffered COVID-19 (n = 19) and those without COVID-19 (n = 486). Clinical manifestations as well as disease-related outcome were assessed and compared

Results. No difference was revealed between the subgroups with and without COVID-19 in demographics, underlying comorbidities and duration of dialysis, however higher rate of travelling or exposing COVID-19 patients were shown among those affected by COVID-19. Regarding outcome, 47.4% of patients with COVID-19 recovered in outpatient settings, while, 21.1% required admitting to intensive care units, and 21.1% died within hospitalization. Comparing baseline parameters between the survived and non-survived COVID-19 patients showed higher rate of dyspnea, cough, raised liver enzymes, higher mean white blood cell count, higher level of ESR and lower mean serum hemoglobin level

Conclusion. Despite the low incidence of COVID-19 in patients undergoing peritoneal dialysis, the adverse outcome of these patients is predictable, mainly in cases of raised inflammatory markers and decreased serum hemoglobin.

1320 Chronic Kidney Disease in Iran: Hidden Large Number of Events Based on a Population-based Study

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Introduction. This study aimed at determining the prevalence of chronic kidney disease (CKD) and its risk factors based on CKD stages among the general population living in Isfahan, Iran.

Methods. A cross-sectional sample of 3374 adults aged ≥18 years in Isfahan city were recruited from 2017 to 2019. We collected data on the demographic and anthropometric characteristics of all participants. Measured laboratory parameters included the urine albumin to creatinine ratio (UACR), whole urinalysis, fasting blood sugar (FBS), serum levels of lipid profile, creatinine (Cr) and blood urea nitrogen (BUN). In addition, the estimated glomerular filtration rate (eGFR) was computed by the Chronic Kidney Disease-Epidemiology Collaboration (CKD-EPI) equation, and CKD stages were determined.

Results. In total, we observed a prevalence rate of 18.5% for CKD. 7.1% of patients were in stage 1, 7.6% in stage 2, 3.5% in stage 3, and 0.25% in stage 4. Our study population was mostly female (59.3%). Patients consumed higher amounts of refined grains and lower amounts of dairy compared to the healthy participants. The logistic regression analysis found that age, body mass index (BMI), blood pressure, female sex, being single and illiterate, and smoking were significantly associated with the risk of CKD.

Conclusion. The findings of this study revealed that the overall prevalence of CKD in Isfahan is high and it is predominantly in the early stages (stages 1–2). It is imperative to take action to reduce the risk of CKD and improve its risk factors.

1329 COVID-19 Outcome in Kidney Allograft Recipients, A Report of a Referral Center

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Introduction. The pandemic of SARS Cov-19 (COVID-19) has affected millions of individuals and resulted in 3 percent mortality worldwide. Kidney allograft recipients are at increased risk of mortality and morbidity in COVID-19, due to their immunosuppressed and cardiovascular conditions.

Methods. This study evaluated the outcome of renal allograft recipients with COVID-19 in a single referral center. Seven thousands, seven hundred and forty one patients with COVID- 19 admitted in Firoozgar Hospital from March 2019 to September 2021. Among them 59 were kidney allograft recipients with the age range of 18-76. We reported our outcome as the mortality during hospital stay. Acute kidney injury and severity score were defined based on KDIGO and WHO classification, respectively. Our Therapeutic management included low dose CNI and antimetabolites withdrawal. The selection of steroid dose was related to severity score. Critical and severe patients received methylprednisolone pulse for three consecutive days.

Results. Fifty nine renal allograft recipients were included in this study, 38 (64.5%) were male and 21(35.6%) were female. The most frequent comorbidities were diabetes mellitus (52.5%) and hypertension (30%). The mortality rate was 22% (13 out of 59). Forty six (78%) patients were discharged from the hospital with good condition. According to defined WHO classification severity score, 15 (25.4%) had mild, 14 (23.7%) moderate, 17 (28.8%) severe, and 13 (22%) were in a critical situation on admission. Acute kidney injury developed in 13.6% of patients. Univariate analysis showed that Severity score, age, transplant duration, CRP and lymph/neutrophil ratio, LDH, and need for intubation were the major predictive risk factors of mortality ($P < 0.05$).

Conclusion. The mortality rate in hospitalized kidney allograft recipients was 1.5 to 3 fold higher than general population. Those with acute kidney injury need long term follow up for the detection of permanent sequel. As the COVID-19 infection in renal allograft recipients considerably increases the risk of morbidity and mortality, these patients should be monitored closely to prevent poor outcomes.

1330 Efficacy of Sofosbuvir and Daclatasvir on the prognosis of kidney transplantation recipients with SARS-COV-2 infection; A single-center study in Shariati Hospital

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Introduction. The novel coronavirus disease 2019 (COVID-19), caused by severe acute respiratory coronavirus 2 (SARS-COV-2), was reported in Wuhan, China, in early December 2019 and spread rapidly worldwide. In the COVID-19 era, Kidney transplantation recipients (KTRs) are at high risk due to using immunosuppressive drugs. Therefore, finding an efficient treatment for the management of COVID-19 in KTR patients is crucial due to its poor prognosis. Despite the use of various antiviral and anti-inflammatory drugs, there is yet no definitive cure for Covid-19. Repurposing existing pharmaceuticals is a way to find an immediate medication. Thus, we assessed the antiviral treatment efficacy of Sofosbuvir combined with Daclatasvir on KTRs with SARS-COV-2 infection.

Methods. We conducted a single-center retrospective cross-sectional study of all adult kidney transplant recipients with COVID-19, admitted to Shariati Hospital, Tehran, Iran, from October to December 2020. All the patients received a once-daily combination pill of SOF and DAC at a dose of 400/60 mg for 10 days. The study protocol was approved by the Ethical Committee of the Tehran University of Medical Sciences under ID: IR.TUMS.DDRI.REC.1399.028. Statistical analysis was performed using IBM SPSS version 26.0. A P value less than 0.05 was considered statistically significant for all tests.

Results. From October to December 2020, 12 adult KTR patients were recruited; four patients (33.3%) died and eight patients survived (66.7%). The dead patients were older than those who survived. However, it was not statistical significance (53.67 ± 3.786 vs. 47.63 ± 11.868, $P = 0.422$). Acute kidney injury (AKI) due to COVID-19 infection was seen in 11 patients of the study population (91.7%) and all four dead KTRs. Also, three patients underwent dialysis, which two died (50%). The most common comorbidities were hypertension (6 patients, 50%) and diabetes mellitus (4 patients, 33.3%), while no significant correlation was seen between comorbidities and mortality ($P > 0.05$). About the immunosuppressive drugs, of four dead patients, three (75%) used Mycophenolate, and all of them used Prednisolone. The laboratory results showed that the mean level of each parameter WBC, INR, CRP, Ferritin, D-Dimer on the last day of hospital stay was significantly different between two groups of survived and dead patients at a 95% confidence level ($P < 0.05$).

Conclusion. Sofosbuvir combined with Daclatasvir for treatment of KTRs with SARS-COV-2 infection showed efficacy by reducing the mortality rate. Also, the medication was safe. Patients tolerated it well, and no serious adverse effects were observed. Larger studies are needed to validate these results.

1235 Pattern and Prevalence of Different Findings in High Resolution Computed Tomography Images in Patients with Coronavirus Disease and Kidney Injury

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Introduction. Since December 2019 an outbreak of pneumonia caused by a new coronavirus has emerged. High resolution computed tomography has been proven to be a sensitive, feasible and accessible test. In addition to respiratory system other organs could also be involved in this disease. The exact mechanism of renal involvement unknown, However, acute kidney injury (AKI) occurs in almost 5-15% of cases. Different HRCT patterns might be associated with acute kidney injury presence and severity of the disease.

Methods. In this retrospective study we reviewed all hospitalized patients with COVID-19 infection, from February to April 2020 in Razi hospital, Rasht. Twenty-two cases who had AKI were enrolled. The HRCT findings of the patients were reviewed independently by 2 radiologists. Percentage and prevalence of HRCT findings were analyzed in SPSS 21 software.

Results. All 22 cases had multifocal distribution on HRCT. 95.5% peripheral involvement, 86.4% central zones opacity and 72.2% pribronchovascular involvement were noted. Bilateral lung involvement was found in 90.9% but only 9.1% had unilateral involvement. There was 59.1% lower lobe predominancy and Subpleural regions were spared in 18.2%. All the patients' HRCTs showed ground glass opacity. Reticular pattern (81.8%), consolidation (77.3%), vascular enlargement in involved zones (68.2%) and airway changes (68.2%) were the next more prevalent findings. Half of the subjects showed crazypaving, 45.5% pleural effusion and 13.6% lymphadenopathy. 40.9% of the patients had arcade-like sign. Less frequent findings were nodular opacities (13.6%), halo sign (9.1%) and reverse-halo sign (9.1%), respectively.

Conclusion. This study demonstrated that atypical patterns are likely to be more common in Covid19 patients with kidney injury.

1241

The Effect of L-Carnitine on the Prevention of Contrast-induced Nephropathy in Patients Undergoing Coronary Angiography: A Randomized Clinical Trial

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Introduction. Contrast-induced nephropathy (CIN) is a critical problem due to the use of Iodinated contrast agent, which can lead to acute renal failure (1-2). It is an acute complication of coronary artery angiography and also having angioplasty (3-4). Its prevalence varies in different populations and is higher in people with risk factors such as hypertension, diabetes and people of old age, renal failure, and heart failure (5-6). The incidence rate of nephropathy caused by CIN in the general population has been reported as 0.6-2.3%. CIN is defined as the sudden increase of serum creatinine as 0.5 mg/dl or more relative to baseline serum creatinine or 25% sudden increase in serum creatinine compared to baseline amount during 48-72 hours after contrast agent prescription in the absence of kidney failure evidence (8-9). Known as contrast-induced Acute Kidney Injury, CIN is the third leading cause of acquired acute renal failure due to hospitalization. It happens due to repeated confrontations with contrast agent during th

Methods. This study was conducted as a randomized clinical trial in an Educational-Therapeutic-Research Center, Rasht, Iran. Patients who met at least 1 of the following criteria were excluded from the study: ST-elevation myocardial infarction, history of PCI or coronary artery bypass graft surgery in the previous 6 months, impaired renal function (creatinine clearance < 30 mL/min), cardiogenic shock, thyroid disorders, pregnancy and concomitant use of nephrotoxic drugs. 286 patients who were candidates for elective angiography and PCI were included. 143 patients were randomized to L-carnitine and 143 other patients were randomized to the control group. All demographic information (including age, sex, weight, BMI), underlying diseases, clinical, biochemical, and information about the procedure, including the duration of the procedure and the amount of contrast agent and echocardiographic information, were recorded according to the relevant form. For all patients in this study, serum creatinine (SrCr), BUN, urine

Results. For the present study, 286 patients (143 patients in the intervention group and 143 patients in the control group) were included. Their mean age was 59.8 ± 11.3 years and 178 patients (62.2%) were male. They underwent elective and PCI angiography at a Research & Education Center in Rasht in 2020. The mean age of the subjects in the intervention group was 58.57 ± 12.09 years. The intervention group had 88 (61.5%) male and 55 female patients. There were 90 (64.3%) male and

53 (35.7%) female patients in the control group. The body mass index score in the intervention group was 20.9 ± 4. Also, 62.4% of the patients in the intervention group and 63.6% in the control group had high blood pressure. In both intervention and control groups, 23 patients (16.1%) were smokers. Additionally, 5.6% of the patients in the intervention group and 11.9% in the control group were opium users. Both intervention and control groups were similar in terms of such variables as age, gender, body mass index, smoking and opium use, and history

Conclusion. Our results showed that after the angiography, the GFR levels in the intervention group has been significantly greater than the control group; therefore, L-carnitine significantly improved renal function by increasing GFR in patients undergoing angiography and angioplasty.

1243 Comparing the Functional Bladder Capacity Between Children with Mono-symptomatic Nocturnal Enuresis and Non Mono-symptomatic Nocturnal Enuresis

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Introduction. Nocturnal enuresis is a common disorder. It is categorized into mono-symptomatic (MNE) and non-mono-symptomatic (NMNE) enuresis. We aimed to compare the functional bladder capacity between these two groups.

Methods. This cross-sectional study was conducted March 2015 to September 2020 on nephrology clinic of Dr. Sheikh children hospital and the nephrology clinic. The enuresis was defined and categorized according to the International Children's Continence Society (ICCS). The children with underlying neurologic diseases (including myelodysplasia, cord injury, or brain injuries like cerebral palsy) and those with urologic disorders like vesicoureteral reflux were excluded from the study. In order to assess bladder capacity, three methods were used including measuring the bladder volume at full condition on bladder ultrasound, the maximum urinary volume according to the frequency – volume charts (recorded during two days), and maximum voided volume on uroflowmetry tests. Age expected bladder capacity was measured by the Coffer's formula. The results were compared between MNE and NMNE groups using SPSS software. The significance level was 0.05.

Results. Totally, 104 children enrolled the study (59.6% boys and 44.1% girls) .The ages in MNE and NMNE groups were 104 .15 ± 31.88 and 92.41 ± 33.21 months, respectively (P = 0.129). Totally 76.9% and 23.1% had NMNE and MNE, respectively. Functional bladder capacities were measured by bladder ultrasound, frequency volume chart and uroflowmetry test in 52 (50%), 73 (70.2%) and 43(41.3%) cases, respectively. There was no significant difference on bladder capacity measured by bladder ultrasound, frequency volume chart and uroflowmetry test between cases with NMNE versus MNE (P = 0.973, 0.517 and 0.187, respectively). Also small bladder capacity was as common in MNE as those with NMNE (P = 0.37, 0.369 and 0.591 for bladder ultrasound, frequency volume chart and uroflowmetry test, respectively).

Conclusion. Bladder capacity is not different in NMNE compared to MNE and small bladder capacity is as frequent in MNE as those with NMNE.

1244 Frequency of Vesicoureteral Reflux and Renal Scaring in Children Affected by Urinary Tract Infection in Ages ≤ 5 years vs. > 5years

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Introduction. comparing frequency of vesicoureteral reflux and renal scarring in children ≤ 5 years affected by urinary tract infection versus those above 5 years.

Methods. A longitudinal study was performed on children under 18 years of age between October 2003 and October 2016. Cases underwent kidney-bladder ultrasound and voiding cystourethrogram enrolled the study.Tc99m- DMSA was used in patients with acute pyelonephritis, those with vesicoureteral reflux, or in the case of renal scarring in kidney ultrasound. Patients with neurogenic bladder, urinary obstruction and those with unidentified age at presentation excluded.

Results. Totally 816 patients (65.65%) enrolled, including 719 girls (81.1%) and 97 boys (11.9%).They aged 33.26 ± 32.47 months. In total 675 (82.7%), and 141 patients (17.3%) were in age groups of ≤ 5 and > 5 years, respectively. Vesicoureteral reflux was significantly more common in group ≤ 5 years versus > 5 years ($P < 0.0001$). The frequency of high grade vesicoureteral reflux did not differ significantly between the groups ($P = 0.888$). Renal scarring was found in 33.4% of patients. There was no significant difference in the frequency of renal scarring between roup ($P = 0.523$). Kidney units with severe scarring were significantly more prevalent in children > 5 years than those ≤5 years ($P = 0.024$).

Conclusion. However vesicoureteral reflux was more prevalent in children ≤5 years, high grade vesicoureteral reflux was as common in children > 5 years as those ≤ 5 years. Furthermore, the frequency of renal scarring was similar, but kidney units with severe scarring were more prevalent in cases > 5 years.

1250 Evaluating Clinical Manifestations and Metabolic Factors in Infants 2 to 24 Months with Nephrolithiasis

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Introduction. The current study was conducted to evaluate clinical presentation and underlying metabolic factors in infants affected by nephrolithiasis in ages 2-24 months.

Methods. Infants 2-24 months affected by nephrolithiasis enrolled a cross sectional study .They were reffered to the nephrology clinic between October 2005 and March 2019. Nephrolithiasis was diagnosed by performing kidney-bladder ultrasound. All patients underwent a preliminary metabolic evaluation including urine analysis and culture, measurement of calcium, uric acid and creatinine in random urine, serum levels of BUN, creatinine, sodium, potassium, calcium, phosphorous, alkaline phosphatase and blood gasometery

Results. Finally 245 infants aged 7.57 ± 5.35 months enrolled the study. They included 105 girls (43.1%) and 140 boys (56.9%) (M/F = 1.33) . The main clinical manifestations were irritability (52.2%), changed urine color (13.4%), and asymptomatic presentation (29 patients; 11.8%). in 20 cases (8.1%) diagnosis was made during ultrasound examination for follow up of prenatal hydronephrosis. Localization of stones were bilateral, left and right kidneys in 46.1% (n = 113), 36.7% (n = 90) and 15.5% (n = 38) of cases, respectively. Bladder and ureteral stones and nephrocalcinosis each were found in 4 (1.6%) cases. The most common abnormalities in urinalysis were crystalluria (23.7%) and pyuria (19.4%). The most prevalent abnormal findings in biochemistry examination was mild increased in serum calcium levels (10.2-10.99 mg/dl), which was found in 26.5% of patients. Metabolic abnormalities were found in 51 (20.8%) cases including hypercalciuria (11.4%), hyperuricosuria (6.9%) and hyperoxaluria (5.3%). Distal renal tubular acidosis was diagnosed in 5 (2%) patients. Ten (4.08%) and 2 (0.8%) pateints had association of two and three metabolic abnormalities, respectively. Urological abnormalities were found in 26 (10.6%) of subjects, the most commonly ones was vesicoureteral reflux (20 cases; 8.16% of all patients). Finally considering 20 cases (8.16%) who had only urological abnormalities predisposing for stone formation (16 cases, with vesicoureteral reflux, 3 patients with uretero pelvic junction obstruction and one subject with horseshoe kidney), we found a predisposing factor for nephrolithiasis in 71 patients (29%).

Conclusion. Our study showed that main presentation of nephrolithiasis in infants 2-24 months is irritability, and also asymptomatic cases are common.Additionally nephrolithiasis are more prevalent in boys, metabolic abnormalities are not uncommon, and hypercalciuria is the most metabolic abnormality. Hyperuricusuria is significantly more common in infants > 12 moths that may be related to complementary feeding added to the diet.

1252 Frequency of Neurogenic Bladder in Children Affected by Urinary Tract Infection

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Introduction. Neurogenic bladder dysfunction is one the different factors responsible for pediatric urinary tract infection. We aimed to define the prevalence of neurogenic bladder disorders in pediatric UTI, and types of neurologic deficit in affected patients. Also comparing the frequency of acute pyelonephritis, chronic constipation, abnormal kidney and bladder ultrasound findings and mean leak point pressure (LPP) in case with compared to those without vesicoureteral reflux (VUR).

Methods. Patients with diagnosis of UTI referred to the nephrology clinic in a 15- year period were evaluated. Those with clinical and radiologic findings suggestive of neurogenic bladder confirmed by MRI enrolled the study. Based on voiding cystoureterography (VCUG) findings cases divided into patients with and those without VUR. Demographic characteristics, febrile UIT, association with chronic constipation, abnormal kidney and also bladder ultrasound findings and leak point pressure (LPP) were compared between these 2 groups. P value < 0.05 was considered as significant difference.

Results. Of 1243 cases referred to the clinic, diagnosis of neurogenic bladder confirmed in 34 cases (2.73%). They included 25 girls (73.5%) and 9 boys (26.5%), aged 2.5-214 (44.55 ± 52.44) months. Etiologies of neurogenic bladder included spinal dysraphism in 29 patients (85.3%), cerebral palsy (3 cases; 8.82%), and traumatic spinal injury or spinal tumors each one case (2.94%).The types of UTI were as pyelonephritis and cystitis in 14 (41.2%) and 20(58.8%) of cases, respectively . Kidney and bladder ultrasound examinations were abnormal in 50% and 55.9% of patients, respectively. Totally VCUG was performed in 29 patients, and VUR was reported in 13 patients (44.8%) and 22 out of 58 kidney ureter units (37.9%), including severe VUR in 17 kidney –ureter units (77.3%). Considering age, gender, presence of chronic constipation, abnormal kidney or bladder ultrasound findings and mean LPP, there was no significant difference between cases with rather than those without VUR (P > 0.05 for all). Of 19 patients who underwent Tc-99m DMSA scan, renal scar was reported in 57.9%.

Conclusion. Spinal dysraphism is the most common etiology. Vesicoureteral reflux, especially high grade VUR is common in this patients.Occurance of acute pyelonephritis, abnormal kidney or bladder ultrasound findings, chronic constipation and also mean LPP are not affected by presence of VUR.

1254 Rhabdomyolysis and Its Relationship with Paraclinical Variables in Poisoned Patients

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Introduction. One of the consequences of poisoning is rhabdomyolysis, a clinical syndrome that occurs due to the damage to striated muscles, myocytes, muscular fibers, and the release of intercellular elements into the bloodstream. Mechanisms causing this syndrome consist of damage to the cell wall, cellular hypoxia, and disorders in the sodium-potassium pump of muscle cells. This syndrome is caused by various factors, including the consumption of some medicines and poisons, surgery, trauma, malignant hyperthermia, muscular ischemia, high muscular stresses, impacting physical factors, viral and bacterial infections, metabolic and electrolyte disorders, endocrine disorders, genetic disorders, and neuropathies. This study examined rhabdomyolysis in all types of poisoned hospitalized patients and its relationship with paraclinical variables, such as creatine phosphokinase and the patients' level of creatinine, blood urea, alanine aminotransferase, and aspartate aminotransferase.

Methods. In this retrospective cross-sectional study, the researchers reviewed the records of all the patients hospitalized for poisoning during one year and identified cases of rhabdomyolysis by referring to patients' records in a referral center in the northwest of Iran. More than 100 patients suffering from rhabdomyolysis caused by poisoning were enrolled.

Results. In this study, the frequency of AKI ranged from 10.9 to over 16.9 percent: at discharge (or death) (10.9%), during hospitalization (16.9%), and arrival time (16.9%). There was a significantly positive correlation between age and Cr; i.e., by aging, only Cr levels also increased at arrival time (Pearson's correlation: +0.248, $P = 0.024$). There was a significantly positive correlation between CPK and Cr, i.e., with an increase in CPK level, Cr levels increased, too, and with a decrease in CPK levels, Cr levels decreased, too (Table 3). In CPK levels > 2000, the risk of AKI (Cr > 1.5) increased 2.33 folds.

Conclusion. Xenobiotics (e.g., opioids, drugs, alcohol, and poisons), xenobiotic-induced coma, and/or xenobiotic-induced seizures were the causes of rhabdomyolysis in the present study. Briefly, the research findings revealed the highest prevalence of rhabdomyolysis in male youth poisoned by narcotics. This research indicates drug misuse of youth as active labor forces and subsequently one of the severe social crises that the authorities should monitor and control. Typical clinical symptoms and rhabdomyolysis symptoms do not occur at the same time. Hence, proper clinical workouts and timely para-clinical tests play a significant role in the initial diagnosis and timely treatment to avoid ARF.

1256 Coronavirus Disease 2019 and Hypertension: How Anti-Hypertensive Drugs Affect COVID-19 Medications and Vice Versa

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Introduction. Hypertension, as a medical problem, is one of the most common disorders in cardiovascular disease. High blood pressure has been identified as one of the most familiar risk factors for the ongoing COVID-19 pandemic. We planned to explore the possible interactions between antihypertensive agents and drugs targeting SARS-CoV-2 with broad investigations in the mechanism of action and adverse effects of these medications.

Methods. The electronic databases (PubMed, Scopus, and Google scholar) were searched by two of the coauthors to collect the papers relevant to the subject. The keywords searched were angiotensin converting enzyme inhibitors (ACEI), angiotensin-II receptor blockers (ARBs), sympatholytic drugs (alpha-1 blockers, beta blockers), vasodilators (calcium channel blockers, nitrates, hydralazine), diuretics, chloroquine, hydroxychloroquine, lopinavir/ritonavir, remdesivir, favipiravir, interferons, azithromycin, anti-cytokine agents, glucocorticoids, anticoagulant agents, nitric oxide and epoprostenol.

Results. QT prolongation, hypokalemia, arrhythmia and increase the serum level of drugs are the most risky adverse effects of medications in patients with COVID-19 on anti-hypertensive drugs.

Conclusion. Interaction of the drugs used for COVID-19 patients with anti-hypertensive drugs is an important issue that this review addresses.

1263 Investigation of Dialysis Water Quality in Lorestan Province (A Multi-center Study)

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Introduction. Patients are exposed to more than 100 liter of dialysis solution during each dialysis session. Any contamination of dialysis water may enter circulation and contribute to chronic inflammatory response and long term morbidity. Therefore, microbiological purity of dialysis solution is important. Due to little data about purity of dialysis solutions in lorestan dialysis centers, this study was done.

Methods. This cross sectional study performed in two major dialysis center of Lorestan University of medical sciences (Shohada Ashayer Hospital, Shahid Rahimi hospital). Totally, 165 patients were included in sampling. Based on American Association of Medical Instrumentation (AAMI) recommendation, the maximum acceptable level of viable bacteria count was 200 colony forming units (CFU) per milliliter of water .Analysis performed using software SPSS,V 16.

Results. Our results showed that the number of positive samples was 43(26.2%). Shohadaye Ashayer results showed that,38 (23.2%) out of all was positive.by comparison, in Shahid Rahimi hospital the number of positive sample was 5(3%).according to chi-square test, this difference was statistically significant ($P < 0.001$)

Conclusion. Concerning more contamination of dialysis water in this area, further study should be done for cause of etiology .About difference of results in two centers, another investigation is necessary. Regarding hazards of dialysis water contamination an appropriate and better disinfection program for all dialysis centers is recommended.

1264 Serum Electrolytes Imbalances in COVID-19 Patients (A Single Center Study)

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Introduction. Abnormality of main electrolytes is a common complication in hospitalized patients. Concerning, hazards of electrolyte imbalance and its effect on management of patient, measurement of electrolytes are important. Tubular effect of virus and drugs side effect is another challenging item.

Methods. All covid-19 patients admitted to general hospital of khorramabad city (capital of lorestan province) included in cross sectional study. Totally, 232 samples were collected during first three months of 2020. Two main electrolytes (sodium and potassium) were measured in all cases. Given the effect of kidney function for each patient, GFR was measured. Statistical analysis performed using software SPSS 26.

Results. In patients complicated with AKI, 27.8%% had sodium abnormality and 27.7% had potassium disturbances. hyponatremia was more frequent than hypernatremia. But, hyperkalemia was more frequent than hypokalemia. Conversely, in patient non- complicated with AKI, frequency of sodium and potassium abnormality was, 6.3% and 14.8% respectively which hypokalemia was the most frequent abnormality. There were no significant statistical differences between above results.

Conclusion. There are some discrepancies between types of sodium or potassium abnormalities in similar studies. Differences of severity of covid19 disease and comorbidities may be influence on results. Concerning outcomes of hypo-hyperkalemia or hypo-hypernatremia, physicians should be pay attention to serial measurement of main electrolytes in hospitalized covid19 patients. Proper fluid therapy in AKI or non-AKI patients is necessary.

1268 Effect of Intradialytic Aerobic Exercise on Dialysis Adequacy, Inflammatory and Biochemical Markers

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Introduction. Hemodialysis (HD) is the most common modality of renal replacement therapy for patients with renal failure. Despite continuous improvements in dialysis technique and treatment, many of these patients are associated with impaired physical performance as well as reduced exercise tolerance. Intradialytic exercise was also reported to be associated with better dialysis adequacy, improvement in biochemical (Ca, P) and inflammatory (CRP) markers. This study aimed to determine the effectiveness of intradialytic exercise on dialysis efficacy, biochemical markers, and physical performance among hemodialysis patients.

Methods. A single center randomized clinical trial was adopted to investigate 30 ESRD patients who were on HD treatment from at least 6 months ago. Those who met the inclusion criteria were selected and randomly allocated into experimental group (n = 16) and control group (n = 14). Patients with symptomatic cardiovascular disease, fever, hyperkalemia, active liver disease, musculoskeletal limitations, hemodynamically unstable during the dialysis treatment were excluded from the study. In a 6-month program, the experimental group received intradialytic 30 minute exercise during the first 2 hour of HD for 3 times a week. Blood samples were collected for biochemical measurements such as urea, creatinine, potassium, calcium, phosphate, and hemoglobin. Urea reduction ratio (URR), Dialysis efficacy (Kt/V value), and STS-10 test were determined at baseline and at the end of 3 and 6 months of the exercise program. All data were analyzed using the SPSS 22 package.

Results. There were no significant differences between control and intervention groups in baseline demographic and biochemical characteristics. STS-10 test results showed a significant increase in muscle strength at the end of 6-months for exercise group ($P < 0.05$). Prescribed intradialytic exercise was also resulted in improvement in Kt/V, and C-reactive protein levels. However these nominally differences were not statistically significant ($P = 0.06$). No significant changes were also found for biochemical parameters between two groups after 6 months.

Conclusion. Based on the findings of this study, it can be concluded that intradialytic exercise program is a safe complementary intervention and does not need an extra time of the patient. It can be associated with improvement in physical ability.

Table 1.

	Exercise Group	Control Group	*P*
Age	56.94 ± 14.67	58.36 ± 15.43	> .05
Gender (M/F)	10/6	7/7	> .05
Dialysis Duration	3.68 ± 0.51	4.50 ± 1.87	> .05
URR	0.66 ± 0.08	0.68 ± 0.08	> .05
KT/V	1.35 ± 0.30	1.39 ± 0.27	> .05
Hemoglobin	12.08 ± 1.94	12.43 ± 1.53	> .05
Albumin	4.32 ± 0.36	4.60	> .05
CRP	0.65 ± 0.46	0.81 ± 0.49	> .05

Table 2.

	Exercise Group (Mean Difference)	Control Group (Mean Difference)	P
URR	-3.62 ± 6.48	-13.37 ± 34.24	> .05
KT/V	0.31 ± 0.42	-0.01 ± 0.517	> .05
Ca	-0.45 ± 1.06	-0.40 ± 0.69	> .05
Phosphate	1.12 ± 1.69	0.81 ± 1.19	> .05
PTH	-238.93 ± 220.35	4.55 ± 533.61	> .05
TG	26.87 ± 112.75	40.57 ± 80.21	> .05
Cholestrol	20.87 ± 40.22	6.42 ± 41.99	> .05
Albumin	-0.13 ± 0.45	-0.05 ± 0.30	> .05
Ferritin	-75.16 ± 429.54	146.50 ± 444.14	> .05
CRP	-0.14 ± 0.52	0.31 ± 1.05	> .05
STS-10	20.80 ± 6.39	37.71 ± 17.02	< .01

1269 Association of Hyperuricemia and Metabolic Syndrome in Renal Transplant Recipients: A Single-center Study

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Introduction. It seems that the incidence of hyperuricemia is increasing in kidney transplant patients. The association between metabolic syndrome and hyperuricemia leads to reducing graft longevity. This study aimed to compare the prevalence of hyperuricemia in kidney transplant patients with and without metabolic syndrome.

Methods. This cross sectional study was conducted on 150 kidney transplant patients who were referred to the kidney transplant clinic of Montaserieh Organ Transplant Hospital, Mashhad University of Medical Sciences, Mashhad, Iran, from 2019 to 2020. Anthropometric data, lipid profile, serum uric acid, glucose levels, and renal function were assessed in this study.

Results. According to the results, the patients with metabolic syndrome had higher mean uric acid levels (6.9 ± 1.51 mg/dl), compared to those without metabolic syndrome (6.11 ± 1.47 mg/dl; $P = 0.001$). Hyperuricemia was reported in 38.5% and 55.6% of patients with and without metabolic syndrome, respectively ($P = 0.03$). Moreover, there was no significant relationship between the number of metabolic syndrome criteria and hyperuricemia ($P = 0.12$). Serum tacrolimus levels were significantly lower in patients with hyperuricemia, compared to those without hyperuricemia ($P = 0.03$). No significant difference was observed between patients with and without metabolic syndrome in terms of serum tacrolimus levels ($P = 0.44$). Furthermore, serum cyclosporine levels showed no significant difference in patients with hyperuricemia and without hyperuricemia ($P = 0.64$) or metabolic syndrome ($P = 0.62$).

Conclusion. According to the findings of the present study, the mean serum levels of uric acid and hyperuricemia are higher in kidney transplant patients suffering from metabolic syndrome, compared to those without the syndrome.

1274 Expression Level of Dicer in Peripheral Blood Mononuclear Cells of Adult Patients with Nephrotic Syndrome

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Introduction. MicroRNAs are small non-coding RNAs that repress gene expression at both transcriptional and translational levels. Maturation of miRNAs is mediated by Dicer and Drosha, RNA polymerases, in cytoplasm and nucleus. Some in vivo studies reported that Dicer may participate in the pathogenesis of proteinuria and glomerulosclerosis

Methods. In the present study, the expression levels of Dicer was evaluated in PBMC samples of drug-resistant NS patients (n = 60) using quantitative Real-Time PCR (q-PCR). A group of healthy individuals (n = 30) were also included.

Results. Dicer expression level was upregulated in NS group under treatment when compared to healthy controls.

Conclusion. Dysregulation of Dicer is associated with NS. These findings confirms that disruption in normal miRNA processing Dicer may play a role in NS and response to therapy.

1276 Polymorphism of IL-17 Gene (rs763780) in Patients with Post-transplant Diabetes Mellitus

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Introduction. Post-transplant diabetes mellitus (PTDM) is a common complication of organ transplantation leading to transplant dysfunction. Cytokines and genetic alterations of inflammatory cytokines have been reported to be associated with glucose homeostasis or diabetes. The pro-inflammatory cytokine IL-17 is involved in glucose metabolism and the pathogenesis of diabetes by inducing a low-degree inflammation. The aim of this study was to evaluate the rs763780 polymorphism of IL-17F gene in transplant patients with and without PTDM.

Methods. This study was performed on 91 patients who have received a kidney allograft for at least 3 months. Patients were divided into two subgroups: patients with PTDM (n = 32) and patients without PTDM (n = 59). The ARMS-PCR was used for the evaluation of specific polymorphism. Clinical and demographic data of patients were collected.

Results. PTDM was detected in 81.3% (n = 26) of TT genotype carriers, 12.5% of TC genotype carriers, and 6.3% of CC genotype carriers. There was no statistically significant difference between the case and control groups in the frequency of T and C alleles and the distribution of the abovementioned genotypes ($P \geq 0.721$). In PTDM group, graft rejection and age of patients was significantly higher ($P \leq 0.017$).

Conclusion. No significant correlation was observed between the incidence of diabetes and rs763780 polymorphism of IL-17F gene.

1280 The Predictive Value of Mehran Risk Score in Contrast Induced Nephropathy

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Introduction. contrast-induced nephropathy (CIN) is the common cause of acute kidney injury lead to increased in-hospital morbidity, mortality,, and long admissions. Mehran risk score(MRS) predict CIN risk after coronary intervention(PCI). In this study we want to validate MRS to predict CIN in iranian patients at a referral Vliasr hospital cardiac center in Mazandaran in 2018.

Methods. We assessed 131 patients who undergone nonemergent PCI. We excluded patients on chronic dialysis. We recorded data including diabetes, Anemia, Congestive heart failure, Intra-aortic balloon pump, Hypotension, Age, Contrast media volume, estimated glomerular filtration rate(e GFR) and assessed serum creatinine(cr) after 72 h. The patients were categorized to four groups: low, moderate, high and very high risk. CIN was defined as increase in serum cr($\geq$ 0.5 mg/dl.)

Results. From the total group, 53.4% of patients were male and mean age was 60.6 years . The overall prevalence of CIN was 23.7%(in male 24.3% and in female 23%).The prevalence Anemia, diabetes, hypotention, age over 70 y/o, GFR < 60cc/min were 26%,32%, 0%, 10.6%, 28.2% respectively. Low, moderate, high and very high risk group were 73.1%, 14.5%, 9.9%, 1.5% respectively. A significant direct association was found between diabetes, anemia, age over 75, contrast fluid volume, and decreased e GFR with CIN. (*P* value: 0.001, 0.001, 0.0001, 0.0001, 0.0001). The prevalence of CIN in low, moderate, high and very high risk group were 9.3%, 52%, 69.2%, 100% respectively. Patients in high-risk group of 7.4 times and in very high-risk group 10.7 times more experienced CIN in comparison to low risk group.

Conclusion. MRS was a good score for predicting CIN in patients undergone coronary intervention especially in high and very high risk group in our study. Maybe MRS was not a sufficient predictor in low risk goup.It needs other larger studies.

1281

Frequency of Vitamin D Deficiency, Safety, and Efficacy of Low Dose Vitamin D Supplementation in Chronic Hemodialysis Patients: An Uncontrolled Open-label Trial

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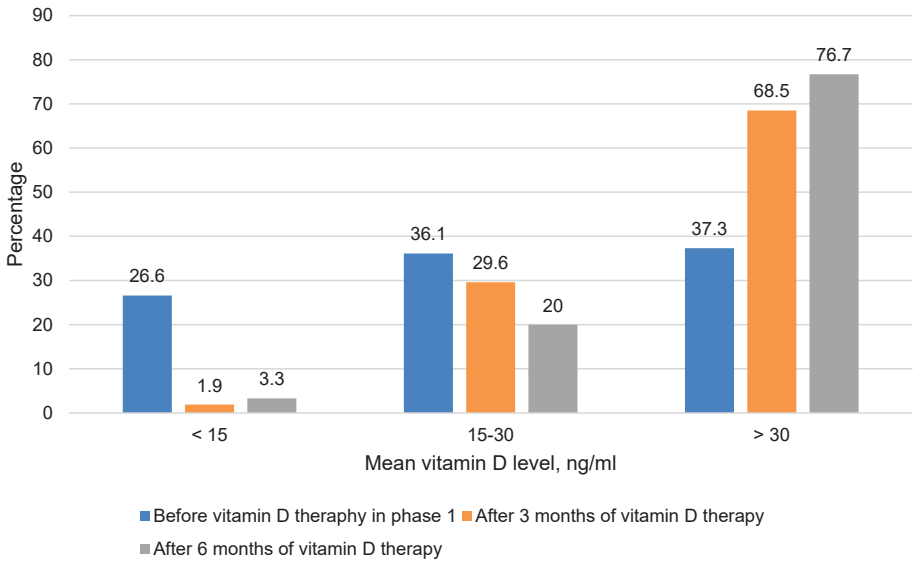
Introduction. Vitamin D deficiency is a common problem in patients affected with chronic kidney disease (CKD) undergoing hemodialysis (HD). Numerous studies have thus far highlighted the importance of taking vitamin D supplements in such patients. Given the high incidence rate of vitamin D deficiency in patients suffering from CKD and its vital role in such individuals, the present study was to shed light on the incidence of vitamin D deficiency and its role in the treatment of these patients with low doses over six months.

Methods. This uncontrolled open-label trial was fulfilled in descriptive and then analytical phases from 2008 to 2010 recruiting chronic HD patients (at least for three months) in our province. For this purpose, 169 patients undergoing chronic HD were randomly selected from five HD centers and their vitamin D level was measured. Then, 54 patients taking the first phase of the intervention, with vitamin D levels below 30 ng/ml were randomly selected and entered into the second phase. During the second phase, this group received 50,000 IU vitamin D3 orally, on a monthly basis for six months. Calcium and Phosphorus levels were checked every three months and if the level was out of the normal range, patients were excluded. A checklist was further utilized to collect the data, which were then analyzed using the SPSS Statistics (ver.16) software. The paired-samples t-test was also employed to compare the quantitative data at different intervals (i.e., months 0, 3, and 6) and the $P < 0.05$ was considered significant.

Results. A total number of 169 patients were included in this study with the mean age of 55.7 ± 0.16. The mean vitamin D level in these individuals was 21.73 ± 20.27ng/ml. As well, 96 patients (62.7%) had vitamin D levels below 30ng/ml, of which 54 cases were randomly selected to enter into the second phase of the study to be treated with vitamin D supplements. Following the six-month intervention, the mean vitamin D level in these patients elevated significantly from 17.03 ± 7.4 to 42.8 ± 16.9ng/ml ($P < 0.0001$).

Conclusion. In this study, the incidence rate of vitamin D deficiency was by 62.7%, which was lower than that in previous research in patients undergoing chronic HD. It was concluded that vitamin D3 (cholecalciferol) administration at lower doses than that used for healthy people could thus significantly increase vitamin D levels. It was confirmed that calcium and phosphorus levels should be taken into account and that the

phosphate binder is better adjusted during vitamin D3 supplementation in chronic HD patients.



Mean of vitamin D level in different phases of the study

1282 Pseudo High Serum Acetaminophen Levels in CKD Patients

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Introduction. Due to the relatively high prevalence of acetaminophen poisoning worldwide especially in developed counteries, the serum level of acetaminophen is measured by default in all poisonings of unknown origin. Patients poisoned or suspected of unknown agent poisoning sometimes also develop renal insufficiency, On the other hand the authors have observed positive serum acetaminophen level (measured in the laboratory by spectrophotometry) in some patients with kidney disease without poisoning with acetaminophen (despite the patient not taking acetaminophen). As a result, acetaminophen poisoning can misdiagnose in these patients, leading to unnecessary treatments and additional costs. Therefore, in this study, the relationship between blood urea, creatinine levels and serum levels of acetaminophen was investigated in patients with end-stage renal disease in Tabriz Sina hospital.

Methods. Thirty patients with ESRD (end-stage renal disease) who undergone hemodialysis, were included in the study. After obtaining informed consent, an additional blood sample of 5 cc was taken from the patients before dialysis. Supplementary and confirmatory O-Cresol diagnostic test was used to investigate that patient not taking acetaminophen. Spectrophotometric method was performed to determine the plasma concentration of acetaminophen.

Results. In this study, the serum level of acetaminophen with a mean of 65.73 ± 9.49 micrograms/mL were high in these patients. Mean creatinine levels were 8.83 ± 2.74 mg/dl and mean urea levels were 130.67 ± 26.78 mg/dl.

Conclusion. The results showed that despite not taking acetaminophen, the serum level of acetaminophen was high in these patients It seems that in ESRD, various toxins may interfere with spectrophotometry method and gives pseudo high levels of acetaminophen in the blood.

1283 Urinary Tract Infections (UTIs) with Non-Escherichia coli (E. coli) Species Are Associate with Urological Abnormalities

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Introduction. To compare the prevalence of non-E. coli infections in patients with urological anomalies, neurogenic bladder dysfunction, and those with apparently normal urinary systems.

Methods. Pediatric nephrology clinic at a tertiary-care center in east of Iran. Children affected by UTI enrolled from 2003 to 2016. The results of urine culture were noted at enrolment. Cases with nephrolithiasis who had normal voiding cystourethrogram were excluded. After the implementation of imaging and urodynamic examinations, 832 patients enrolled according to the following inclusion criteria: cases with vesicoureteral reflux, urinary obstruction, neurogenic bladder, and patients with apparently normal urinary tract. The prevalence of infections with E. coli vs. non-E. coli pathogens were compared between different groups of enrolled cases.

Results. In this study, 62.26% of the subjects had a normal urinary system, while 33.77%, 3.97%, and 2.4% of whom had vesicoureteral reflux, neurogenic bladder, and obstruction, respectively. Non-E. coli pathogens were responsible for infections in 17.29%, 19.39%, 33.74%, and 17.15% of these cases, respectively. Infections with non-E. coli pathogens were significantly more prevalent in cases with neurogenic bladder ($P = 0.003$). Pseudomonas species were responsible for 4/125, 5/118, 5/28, and 0/6 episodes of non-E. coli infections in cases with apparently normal urinary system, patients with vesicoureteral reflux, cases with neurogenic bladder, and those with urinary obstruction, respectively ($P = 0.004$).

Conclusion. Infections with non-E. coli and also Pseudomonas species are significantly more prevalent in patients with neurogenic bladder dysfunction rather than those with urological abnormalities and/or cases with apparently normal urinary system.

1285 Acute Kidney Injury in COVID-19 Patients

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Introduction. Coronavirus Disease 2019 (COVID-19) can present pulmonary and extra pulmonary manifestations. One of the common complications caused by the disease is acute kidney injury (AKI),. This study aims to assess the prevalence of kidney dysfunction in COVID-19 in-patients and its relationship to the outcomes of hospitalization in COVID-19 patients of a tertiary teaching hospital in Mashhad, Iran

Methods. A consecutive cohort study was carried out on patients' record extracted from hospital information system (HIS system) admitted in a tertiary teaching hospital following a major outbreak in Mashhad in 2020. Serum creatinine concentration and other laboratory parameters were extracted from HIS system. Incidence rate for acute kidney injury (AKI) according KDGO criteria was examined during the study. Outcomes, including mortality, and hospital length of stay was analyzed.

Results. We included 715 COVID-19 patients that135 (21.3%) of whom died in the hospital and 488(77.3%) of studied patients have recovered. The mean age of the patients was 59.45 ± 16.83 years old, including 452 males (63.3%) patients. The mortality rate was higher for men compared to women (P = 0.005). The greatest change in mean creatinine was observed between first day of hospitalization (1.31 ± 1.33) and second day of hospitalization (1.81 ± 1.95). During the study period, AKI occurred in 17.84% of patients. The greatest percentage of AKI was observed on the 2nd and 7th days of hospitalization, which were 27.1% and 24.3%, respectively. This study demonstrated that patients with elevated creatinine and kidney impairment had higher risk of mortality (P < 0.0001). Mortality status had a direct and significant correlation with age, CRP, Urea and albumin in serum during hospitalization(P < 0.05). However, length of hospitalization was not associated with AKI (P = 0.465).

Conclusion. There was a great prevalence of kidney impairment in hospitalized COVID-19 patients. After adjustment for confounders, kidney impairment indicators were associated with higher risk of in hospital death. Therefore, it is critical that clinicians consider serum factors indicating kidney impairment in hospitalized COVID-19 patients.

Table 1. KDIGO Classification and The AKIN Classification/Staging System of Acute Kidney Injury

Class	Increase in baseline serum creatinine	increase in serum creatinine	reduction in urine output
stage 1 (AKIN/KDIGO)	↑SCr ≥ 1.5 to 1.9 times baseline	↑ SCr ≥ 0.3 mg/Dl (26.5 µmol/L)	< 0.5 mL/kg/h for 6 to 12 hours
stage 2 (AKIN/KDIGO)	↑SCr ≥ 2.0 to 2.9 times baseline		< 0.5 mL/kg/h for ≥ 12 hours
stage 3 (AKIN/KDIGO)	↑SCr ≥ 3.0 times baseline in patients < 18 years, decrease in estimated glomerular filtration rate (eGFR) to < 35 mL/min/1.73 m^2	↑SCr ≥ 4.0 mg/dL (≥ 353.6 micromol/L)	< 0.3 mL/kg/hour for ≥ 24 hours, or anuria for ≥ 12 hours, or the initiation of renal replacement therapy

1289 COVID-19 Associated Acute Kidney Injury: Incidence, Risk Factors and Outcomes in Different KDIGO Stages

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Introduction. Acute kidney injury (AKI) is the most common renal complication associated with coronavirus 2019 (COVID-19) disease. In this study we evaluated the frequency of AKI, its predisposing factors, and its impact on patients' outcomes in COVID-19 disease.

Methods. A cross-sectional study was conducted on hospitalized SARS-CoV-2 infected patients in a COVID-19-designated hospital in Shiraz, Iran from 20thMarch 2020 to 20th May 2020. Patients' characteristics and laboratory findings were collected by data gathering sheets. Data were analyzed using SPSS, and P value < 0.05 was considered significant.

Results. This study was conducted on 1006 COVID-19 patients (mean age: 51.5 ± 16.3 years and men: 55.0%),of which 31.8% developed AKI during their hospitalization period and 1.3% ended up requiring renal replacement therapy. Based on the Kidney Disease Improving Global Outcomes, stage 3 AKI patients experienced more severe/critical COVID-19 diseases compared to other stages (stage 3:71.0%, stage 2:44.8%, stage 1:6.5%, $P < 0.001$). The mortality rate was higher in AKI patients than in non-AKI ones (16.0% vs. 1.7%, $P < 0.001$) with an increasing stepwise pattern in more severe AKI stages (stage 1:80.6%, stage 2:38.0%, stage 1:5.8%, $P < 0.001$).

Conclusion. Hospitalized COVID-19 patients are vulnerable to AKI, especially those who experienced more severe COVID-19 diseases or required mechanical ventilation and it has a considerable impact on patients' mortality. Also, the mortality rate of ESRD patients was higher than AKI patients and non-AKI ones. Routine kidney function, blood and urine screening tests for all COVID-19 patients should be considered.

1293 A Five-year Study of Renal Outcome of Focal Segmental Glomerulosclerosis Patients

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Introduction. Focal segmental glomerulosclerosis (FSGS) is one of the most common glomerular diseases that lead to a critical condition called nephrotic syndrome. We determined the demographical characteristics, risk factors, and prognostic indexes of FSGS in southern Iran.

Methods. We retrospectively gathered the data of 53 FSGS patients at the time of biopsy and five years after it that referred to clinics of Shiraz University of Medical Sciences.

Results. We performed a five year follow up of 53 patients (mean age 41.0 ± 13.3 years). Tip variant was the most common type of FSGS. Older patients experienced more disease activity, while remission occurred more in younger patients ($P = 0.012$). Patients that experienced remission had lower creatinine and protein/creatinine ratio and also higher amounts of glomerular filtration rate ($P < 0.05$). Treatment with combination of corticosteroid and mycophenolate mofetil revealed a significant correlation with remission in our FSGS ($P = 0.036$).

Conclusion. Patients with older age, higher creatinine, higher protein/creatinine ratio, and lesser glomerular filtration rate at initiation need more aggressive treatment. Treatment with both mycophenolate mofetil and steroid is better than treatment with one of them, while it causes more remission.

1300 Prevalence and Risk Factors of Valvular Calcification in Peritoneal Dialysis Patientsand Hemodialysis

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Introduction. Cardiovascular disease is the leading cause of mortality in patient with ESRD. Valvular calcification one of the important and frequent complication in ESRD patients. Prevalence of cardiac valve calcification in HD patient is 47% and in PDpatient is 32-47%. Valvular calcification is also associated with hyperparathyroidism, elevated calcium-phosphorus product, vascular calcification, hypercalcemia and hyperphosphatemia. Let us to hypothesis at dialysis type, hyperphosphatemia and elevated calcium-phosphorus product might be an additional risk factor in valvular calcification.

Methods. The study population included 102 patients with ESRD who were undergoing maintenance dialysis at least for 6 months at Qaem, Imam Reza, Montaserie Hospital. The eligible participants were those up to 18 years old and patient withstage 3-4 of heart failure and patients who are Parathyroidectomy are excluded. We used the echocardiography to find the calcification of the valves. A severity score for VC was determined according to annulus thickness is B-mode evaluation (score 0 < 3 mm, score 1 = 3-5 mm, score 2 = 6-7 mm, score 3 > 8mm). Factors such as age, cause of ESRD, calcium, phosphorus, PTH, BP, KTV, Albumin, CRP were recorded. Eventually analysed with SPSS 22.

Results. In conclusion, the prevalence of Mitral calcification in HD patient is 65.4% and in PD patient is 48%. Mitral calcification is no association with dialyze type. And prevalence of calcification of Aortic valves in HD patient is 71.2% and in PD patient is 64%. Aortic valve calcification is no association with dialysis type.

Conclusion. Summery of the research findings:type of the dialysis, gender, calcium and PTH was not significantly associated with valve calcification; but duration of dialysis and age associated with valvular calcification.further and larger studies need to be carried out to clarify the possible reasons and investigate more the condition in such patients.

1301 Risk Factors for Urinary Tract Infection Prevalence Among Kidney Transplant Patients in Montasariye Hospital, Mashhad

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Introduction. Urinary tract infection (UTI) is the most common infectious complication following renal transplantation which may lead to bacteremia, sepsis, and graft dysfunction. The majority of UTIs occur at the first year after transplantation. Some studies suggested that recurrent UTIs affect graft function and patients' morbidity and mortality. The purposes of this study were to determine the causative agents of UTIs among renal transplant recipientswho were admitted in Montaserye Hospital.

Methods. This cross-sectional retrospective study was among 306 recipients who underwent kidney transplantation in terms of their valid medical records during the period 2016 to 2017 at Montaserye Hospital, Mashhad. After surgery, all patients were treated with immunosuppression and antibiotics according to a special schedule and urine samples were taken for analysis and culture on the first and second days after surgery and then once every three days during hospitalization. After discharge, the patient is visited every two weeks in the first trimester, then monthly for up to a year, and then every two months if he is STABLE for the rest of his life. After examination and laboratory examination, kidney transplant patients with urinary tract infections and patients without urinary tract infections were divided into two groups. Finally, risk factors in both groups were evaluated.

Results. From all 306 patients' urine cultures, urinary tract infections were confirmed among 156 (50.98%) of them. The mean of age was 37.7 years and 55.2% of subjects were men. 78.7% of patients received graft from cadaver and 91% were treated by hemodialysis. the most frequent causative microorganisms were E.coli as the principal isolated agent in 2% of cases . There was a significant association between the female gender (P = 0.02), receiving graft from calaver donor(P = 0.01), higher dialysis period (P = 0.001), prescribtionof Mycophenolate Mofetil (P = 0.005)and UTI after the transplantation.

Conclusion. The result of current study suggested that some factors such as cadaveric, femal gender, durationprior to transplantation, and type of prescribed antimetabolites were associated with UTI in patients who underwent kidney transplantation. Regarding the considerable rate of UTI in kidney transplant patients, future studies that investigate the risk factors for UTI and identify the high-risk patients seems very crucial.

1302 Association Between Restless Legs Syndrome and Vitamin D Deficiency in Hemodialysis Patients

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Introduction. Restless legs syndrome (RLS) is an uncomfortable sensation lead to uncontrollable urge to move legs and is one of the most common complaints among end stage kidney disease (ESKD) patients. The pathophysiology of RLS is not clear exactly but iron deficiency, hyperphosphatemia, vitamin D deficiency (VDD) have been shown to be associated with dopaminergic dysfunction and RLS. In this study, we aimed to assess the possible relationship between vitamin D and other metabolits with RLS in ESKD patients on hemodialysis in Vali-e-Asr hospital in Ghaemshahr in 2019.

Methods. Our study is An observational cross sectional study on 74 hemodialysis patients and a tial vitamin D supplementation on 35 patients with VDD in Vali-e-Asr hospital in Ghaemshahr.We excluded patients with infection, active malignancy and dialysis vintage less than 3 months. RLS was measured using International Restless Legs Syndrome Study Group (IRLSSG)'s RLS Questionnaire (RLSQ). The risk factors for RLS including underlying cause of renal failure, dialysis vintage, biochemical tests including calcium,phosphor, iron profile and vitamin D, dialysis adequacy were measured. Then we evaluate the possible association between RLS and these parameters.Then we treated patients with VDD with vitamin D supplementation and reassess RLS severity.

Results. The mean age of the patients 58.9 ± 12.6 years old. Forty one percent were male and 54% were female. VDD and RLS were found in 54.3% and 47.3% of patiens respectively.There were no significant difference between two groups with and without RLS in sex, mean age, dialysis vintage,diabetes (*P* value: 0.2, 0.5, 0.5, 0.5 respectively) and in calcium,phosphor,iPTH, Hgb, iron/TIBC, ferritin,VDD (*P* value: 0.08,0.2, 0.055, 0.9,0.6,0.1,0.8 respectively). We didn,t find significant association between RLS and above parameters but in *P* value less than 0.2 in multivariate regression model we found association between RLS and calcium(OR:4.9,95% CI:1.50-1.64), i PTH(OR:1.004,95% CI:1.004-1.007), ferritin(OR:0.9, 0.95%CI:0.91- 0.99). We also treated 35 patients with VDD(19 patients with RLS and 16 patients without RLS) with vitamin D supplementation. After treatment vitamin D level significantly increased. (13.39 ± 4.11 vs 48.93 ± 19.47, $P < 0.001$) The level of calcium (8.42 ± 0.91 vs 8.42 ± 0.91, $P = 0.420$) and phosphorous (5.95 ± 1.62).

Conclusion. In this study we found a significant association between RLS with calcium, i PTH and ferritin. But we didn,t find significant association between VDD and RLS. After treatment with vitamin d supplementation we found significant improvement in RLS severity.These findings may support possible association between RLS and VDD. It needs to design larger and controlled trials to confirm this relationship.

1304 Comparative Effects of Heparin, Vancomycin, and Taurolidine in Prevention of Catheter-related Infections in Dialysis Patients

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Introduction. Determination of the best choice for antibiotic prophylaxis needs some interventional trials to demonstrate the TauroLock ALS with the best outcomes. Accordingly, this study was carried out to determine the comparative effects of heparin, vancomycin, and taurolidine in the prevention of catheter infection in dialysis patients.

Methods. In this double-blind randomized clinical trial, 168 consecutive hemodialysis patients attending to Shahid-Beheshti Hospital in Babol, Northern Iran under permanent or transient catheter placement were enrolled. The rates of infection and related symptoms were determined and compared across the groups. Taurolock solution included taurolidine 1.35% and citrate 4.0%. Vancomycin was used in solution with a dose of 2.5 mg/mL. For the placebo group, only 5000 IU/mL heparin was used. The frequency of infection and related symptoms and catheter removal was compared.

Results. The bacteremia was seen in 8.9%, 5.4%, and 1.8% in heparin, vancomycin, and taurolidine groups, respectively without difference across the groups ($P = 0.244$) and infection symptoms were seen in 17.9%, 30.4%, and 8.9% in heparin, vancomycin, and taurolidine groups, respectively with a difference across the groups ($P = 0.015$). The secretion was seen in 7.1%, 12.5%, and 3.6% in heparin, vancomycin, and taurolidine groups, respectively with a difference across the groups ($P > 0.05$). Tenderness was seen in 8.9% and was alike across the groups ($P > 0.05$). The catheter was removed in 26.8%, 23.2%, and 10.7% in heparin, vancomycin, and taurolidine groups, respectively with a difference across the groups ($P > 0.05$). Also, the catheter was removed for infection in patients that had the same rate across the groups ($P > 0.05$).

Conclusion. Taurolidine has better efficacy to reduce the rate of catheter-related infection and the related symptoms in hemodialysis patients. According to this result use of taurolidine is recommended for ESRD patients under hemodialysis to decrease the rates of infection and need for catheter removal.

1306 Long Term Outcome of Patients on Maintenance Hemodialysis: A Multi-Center Study

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Introduction. Cardiovascular and non-cardiovascular mortality rate of hemodialysis patients is still high despite advance in dialysis therapy.
Methods. Adult prevalent maintenance hemodialysis patients (N = 185) from three hemodialysis facilities were enrolled in this prospective cohort study in September 2012. Causes of death and HD exit were recorded in a 103-month follow up (8.5 years). Cox proportional hazards model was used to predict death after adjustment for case-mix and nutritional variables.
Results. Mean age of patients was 57 ± 15.2 years old which included 47.5% female and 48% diabetic subjects. In univariate analysis; mortality was higher in women (81% vs 63%) and diabetics (89% vs 55%), in subjects with higher body mass index, older age, lower serum creatinine and albumin and iPTH levels. A total of 132 (70%) patients passed away (19 per 100 patient years), and the most common causes of death were cardiovascular diseases (47%) and infections (32%). Kidney transplantation was done in 25 (14%) patients (7 women and 18 men). Median survival was 4.1 (95% CI: 3.3- 5.0) years. One, two, three, five and nine- year survival was 83%, 64%, 56%, 39%, 18%, respectively. In Cox proportional hazards models, hazard ratio (HR) of death for age (year) was 1.020 (95% CI: 1.006-1.034) for every year increase in age, serum albumin (g/dL) 2.31 (95% CI: 1.32- 4.05) for every 1 g/dl decrease in serum albumin, hemodialysis catheter (compared to AVF-AVG) 1.76 (95% CI: 1.11- 2.79), and diabetes was 1.84 (95% CI: 1.27-2.65).
Conclusion. Older age, poor nutritional status, diabetes and catheter vascular access are the main determinants of poor prognosis in hemodialysis patients.

1307 Association of Electrolyte Abnormality and Cardiac Arrhythmia in End Stage Kidney Disease Patients

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Introduction. Cardiac arrhythmia is common in end stage renal disease (ESRD) patients especially who are on hemodialysis. Electrolytic abnormalities are considered as one of the most important predisposing factors of cardiac dysrhythmia. As serum electrolytes level change during each homodialysis treatment session, we try to find association of serum electrolyte level just before and after hemodialysis and electrocardiographic changes in this group of patients.

Methods. In this cross-sectional study, we entered 96 ESRD patients who on hemodialysis for at least six months duration. Electrocardiogram (ECG) and serum levels of sodium, potassium, calcium, and magnesium were checked before and after hemodialysis for all the patients. The data were entered into SPSS21 and analysis was done with a P value $P \leq 0.05$.

Results. In this study, 96 patients were investigated. The most common arhythmia was atrial fibrilatin (Af) (22.9%). The mean of post- dialysis serum potassium level in Af patients were significantly lower that patients without Af (3.2 ± 0.9 vs 3.3 ± 0.5) ($P < 0.05$). There was also significant negative relation between QTc interval and mean serum Calcium level change ($P = 0.023$ r = -0.232). PVC was significantly more reported in patients with post dialysis hypokalemia and hypermagnesemia ($P < 0.05$).

Conclusion. ECG abnormality, especially Af are frequently observed in patients undergoing dialysis, which indicates the need for ECG monitoring during the hemodialysis especially in patients with electrolyte abnormality.

1309 Diverse Spectrum of Organisms Causes Catheter-Related Blood Stream Infections in Different Hemodialysis Centers

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Introduction. Catheter-related bloodstream infections (CRBSI) are associated with higher morbidity, mortality and cost of maintenance hemodialysis therapy. We investigated the epidemiology of CRBSI in a cohort of two non-profit outpatient hemodialysis centers.

Methods. To determine the incidence and types of CRBSI, we evaluated 181 prevalent hemodialysis patients (center 1 = 112 and center 2 = 69 patients) in a prospective 18 months follow-up study.

Results. Mean age of whole patients was 49.5 ± 16 years (39% female and 58% diabetics). Hemodialysis access was cuffed catheter in 106 (58%), AV fistula in 38% and AV graft in 4% of patients. Patients with catheter were significantly more female (48% vs 27%), had higher diabetes (65% vs 47%), lower dialysis vintage (1.8 ± 1.9 vs 3.9 ± 2.7 years), more mortality (31% vs 18%), lower serum albumin (3.86 ± 0.51 vs 4.15 ± 0.41) and hemoglobin levels (11.3 ± 1.6 vs 11.8 ± 1.3) compared to non-catheter patients. A total of 58 CRBSI (52%) happened in 111 catheters (repeat infection = 4). Patients in Center 2 had significantly higher catheter access (71% vs 52%), more diabetic patients (71% vs 50%), lower dialysis vintage (2.1 ± 2.3 vs 3.2 ± 2.6), lower serum albumin (3.75 ± 0.39 vs 4.06 ± 0.47) and Kt/V (1.15 ± 0.18 vs 1.27 ± 0.30) levels compared to Center 2 patients. There was no difference in CRBSI (29% vs 30%), death (20% vs 28%) and CRBSI related catheter exchange rate (55% vs 53%) between Center 2 and 1, respectively. While in Center 1 (38 CRBSI and 30% of patients) pathogenic organisms isolated from blood cultures included coliform bacilli 93% (Enterobacter 53%, Citrobacter 24% and E Coli 16%), Coagulase-negative Staphylococci 5% and Pseudomonas aeruginosa 2%; in Center 2 (20 CRBSI and 29% of patients) pathogenic organisms were mainly usual gram positive and included Coagulase-negative Staphylococci 60%, Staphylococcus ¬aureus 20%, E Coli 10% and Enterobacter 10%. First and third generation cephalosporins were respectively effective in 83% of gram-positive and 95% of gram-negative organisms. Outpatient antibiotic response was 46% (25 patients). CRBSI has no direct effect on death of our patients, however, it leads to mortality in patients with underlying cardiovascular disease. We found no significant risk factors for CRBSI in patients with catheter access. In Cox proportional hazards models, after case-mix adjustment for age, sex, diabetes, serum albumin and access type; only age (HR: 1.029; 95% CI: 1.005- 1.053) and catheter access (HR: 1.782; 95% CI: 1.00- 3.39) were independent predictor of mortality in whole study cohort.

Conclusion. Catheter access is a predictor of higher mortality and morbidity of hemodialysis patients. Different hemodialysis centers have various spectrum of involved organisms. Cephalosporins have still excellent therapeutic effects on vast majority of CRBSI.

1311 Chronic Kidney Disease as a Predictor of In-hospital Mortality in Coronavirus Disease 2019 (COVID-19) Patients

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Introduction. Chronic kidney disease (CKD) is an important comorbidity in Coronavirus Disease 2019 (COVID-19) patients considering its high prevalence. We aimed to figured out the relationship between CKD and COVID-19 mortality in the present study.

Methods. In total, 116 CKD patients (eGFR lower than 60 mL/min/1.73 m2) and 147 control subjects confirmed with COVID-19 were studied. Data regarding demographics, sign and symptoms, laboratory findings and chest computed tomography were collected. Association between CKD and in-hospital mortality were analyzed using logistic regression models adjusted for confounders.

Results. Mortality rate was significantly higher in CKD than non-CKD (30.17 vs. 4.76, $P < 0.001$) COVID-19 patients. Multivariate logistic regression showed that CKD was significantly correlated with in-hospital mortality in the total sample (OR = 8.64, CI: 3.67-20.35) and gender subgroups (females: OR = 4.77, CI: 1.38-16.40, males: OR = 13.43, CI: 3.85-46.87) ($P < 0.05$) of COVID-19 patients in the crud model. Whereas, the correlation did not remain significant in the fully adjusted model in the total sample (OR = 1.70, CI: 0.35-8.19) and gender subgroups (females: OR = ,1.07 CI: 0.06- 19.82, males: OR = 0.87, CI: 0.07- 10.33) ($P > 0.05$) of COVID-19 patients.

Conclusion. The present study suggested an independent association between CKD and in-hospital mortality in COVID-19 patients. Therefore, more intensive surveillance of COVID-19 patients with CKD is to be warranted.

1313 Clinical Outcome Following Primary Percutaneous Coronary Intervention in Patients with Chronic Kidney Disease

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Introduction. The presence of chronic renal dysfunction can be an important prognostic factor for patients who were candidate for coronary revisualization. The present study aimed to compare the clinical condition and prognosis of the patients suffering coronary artery disease and undergoing primary percutaneous coronary intervention (PCI) with and without baseline chronic kidney disease (CKD).
Methods. This retrospective cohort study was conducted on 843 consecutive patients with coronary angiography-based CAD and candidate for primary PCI. All study parameters were retrospectively extracted from Rajaie Cardiovascular Medical and Research Center parients' files
Results. Of 843 patients underwent primary PCI in a 5 years, 356 (42.2%) were categorized in CKD group and others in non-CKD group. We showed no difference in left ventricular functional state as well as the number of coronary arteries between the two study groups with and without CKD, but the CKD group experienced more severe right ventricular dysfunction than the non-CKD group (P = 0.003). Overall, 4.8% in CKD group and 4.9% in non-CKD group died postoperatively indicating no difference between the two groups (P = 0.919). Similarly, re-infarction following the procedure occurred in 9.3% and 9.4% respectively indicating no significant difference (P = 0.931
Conclusion. The presence of CKD may not affect early clinical outcome following primary PCI, however exacerbating right ventricular dysfunction was seen in patients suffering CKD.

1315 Urinary CD80 Level in Idiopathic Nephrotic Syndrome of Childhood; Is It a Relible Diagnostic and Prognostic Biomarker?

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Introduction. The most common type of idiopathic nephrotic syndrome (INS) in children is minimal change disease (MCD). one of the suggested mechanisms in its pathogenesis is the presence of circulating factors that cause damage to podocytes. One of these circulating factors is the CD80 (B7-1) molecule which is said to be expressed in kidney tissue in MCD patients. The aim of this study was to assess whether urinary level of CD80 is different in histopathological types of INS and also between steroid-responsive and non-responsive types and by this way specify whether CD80 can be used as a diagnostic and prognostic biomarker.
Methods. This case-control study included 35 healthy children and 51 patients with INS (biopsy-proven MCD = 21, non-MCD = 12; FSGS = 8 and MPGN = 4). patients with age < 1yr and GFR < 60cc/min/1.73m2 were excluded from the study. Morning urine samples were centrifuged at 2000rpm for 20 minutes and supernatant was then removed and urinary creatinine and CD80 levels were measured using a special kit (ELISA Genie) and with enzyme-linked immunosorbent assay (ELISA).
Results. A significant increase in urinary CD80, normalized to urinary creatinine, was found in patients with MCD in relapse (215.44 ng/gr creatinine) compared to those in remission (3.23 ng/gr cr, $P = 0.002$) or those with non-MCD in relapse (4.34 ng/gr cr, $P = 0.001$) and non-MCD in remission (4.64 ng/gr cr, $P = 0.01$). No significant differences were seen between urinary CD80 in patients with MCD in remission compared to those with non-MCD. Receiver operating characteristic (ROC) curve showed a cutoff value of 15 ng/g cr (AUC; 96% with a sensitivity of 93% and specificity of 100%) to differentiate between MCD-relapse and non-MCD-relapse. Using ROC curve, a urine CD80 cutoff level of 108.7 ng/gr cr (AUC; 0.85 with a sensitivity of 71% and specificity of 100%) was obtained to differentiate between MCD-relapse and MCD-remission. Urinary CD80 concentration in patients with steroid sensitive nephrotic syndrome (SSNS) in relapse stage (511.78 ± 275.75 ng/gr cr) was significantly higher than those in remission stage of SSNS (15.25 ± 17.55 ng/g cr ($P < 0.001$) and relapse stage of steroid resistant nephrotic syndrome (SRNS) (148.68 ± 155.33ng/gr cr) ($P < 0.001$). On the contrary, there was no significant difference for the comparison of the urinary CD80 level between remission stage of SSNS (15.25 ± 17.55 ng/g cr) and remission stage of SRNS (5.80 ± 5.11ng/gr Cr) ($P = 0.140$).
Conclusion. This study confirmed that urinary CD80 level was significantly higher in MCD and steroid-responsive children than in the non-MCD and non-responsive patients respectively. Therefor high level of CD80 is correlated with good prognosis and steroid responsiveness in children with nephrotic syndrome and can be used as a non-invasive diagnostic and prognostic biomarker in idiopathic nephrotic syndrome.

1316 Quality of Life of Patients on Peritoneal Dialysis and Contributing Factors: A Cross-sectional Study

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Introduction. In recent years, interest in health-related quality of life (HRQoL) as a major indicator of clinical efficacy and treatment outcome in end-stage renal disease (ESRD) patients has grown significantly. This study aimed to determine the contributing factors affecting the quality of life (QoL) of ESRD patients undergoing peritoneal dialysis (PD).

Methods. A Cross-sectional study was conducted on PD patients presented at PD centres of Al-Zahra and Noor hospitals in Isfahan, Iran, from May to August 2019. A total of 173 patients on PD for more than three months filled the validated 36-Item Short-Form Health Survey questionnaire (SF-36). Baseline demographic details and dialysis-related factors were collected from patients' medical records.

Results. The overall QoL score in the participants was 99.99 ± 20.26. Male patients had a higher QoL score (102.37 in men compared to 96.22 in women; $P = 0.07$). A significant association between dialysis frequency and QoL was observed where three sessions of dialysis per day yielded the highest quality of life (QoL score = 106.15; $P = 0.008$). There was a significant positive correlation between QoL score and residual renal function ($P = 0.047$). There was also a higher quality of life score in self-employed patients compared to housewives (106.2 in self-employed patients compared to 95.37 in housewives; $P = 0.022$).

Conclusion. QoL assessment should be included as an integral part of patient follow-up to evaluate treatment outcomes and implement possible interventions to improve patient's QoL.

1321 Evaluation of Factors Related to Depression in Peritoneal Dialysis Patients; A Multicenter Cross-sectional Study

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Introduction. End-Stage Renal Disease (ESRD) is serious global public health challenge in many developing countries. Treatment of ESRD is carried out through Renal replacement therapy like peritoneal dialysis (PD). Depression is the most common mood disorder which has a strong impact on the quality of life in patients with ESRD. Little is known about the prevalence and risk factors of depression in peritoneal dialysis patients.
Methods. A multicenter cross-sectional study was conducted on 164 adult ESRD patients undergoing peritoneal dialysis for at least three months who referred to the peritoneal dialysis centers of Al-Zahra, Noor & Ali Asghar hospitals, Isfahan, Iran from May to August 2019. Beck Depression Inventory Second Edition questionnaire was used to measure the symptoms of depression and its severity.
Results. 43.5% of patients had some levels of depression. Assessing the association of depression with demographic and PD related factors showed that there was no significant difference regarding age, BMI, dialysis adequacy and residual renal function, dialysis frequency, type of dialysis solution used, disease duration, and age at the start of dialysis. Ordinal logistics regression analysis showed significant association between depression severity categories and gender (OR = 0.397, CI:0.160 – 0.985, P = 0.046), marital status (OR = 2.983, CI: 1.180 – 7.541, P = 0.021), having a separate room for dialysis (OR = 2.511, CI: 1.108 – 5.692, P = 0.027).
Conclusion. As the high prevalence of depression in PD patients, we suggest careful attention and routine evaluation for depression in PD patients, especially women and single patients and those who have low socioeconomic status.

1322 The Relationship Between Proton Pump Inhibitor Use and Serum Level of Magnesium in Hemodialysis Patients

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Introduction. Seum magnesium (mg) levels rise as kidney function declines since there is no magnesium regulatory system other than urinary excretion. Hypomagnesium has been associated with increased vascular calcification,cardiovascular morbidity and mortality and neuromuscular hyperexcitability . The administration of mg also prevents vascular calcification in experimental models.. The association of proton pump inhibitors PPIs and concurrent use of PPIs and diuretics with lower serum mg has also been described in population studies to inappropriate gastrointestinal (GI) mg loss. PPI use is frequent in hemodialysis (HD) patients because of GI problem and numerous drug use.So we decided to assess relationship between serum mg level and PPI use in HD patients.
Methods. We studied 72 chronic HD patients (more than 3 months) since April to June 2018 in Vali-e-Asr hospital in Ghaemshahr(Mazandaran province in Iran) as a a single-center cross-sectional study. We excluded patients under 18 years old and with acute or chronic diarrhea, ileostomy and colostomy.We determind serum mg level of patients for 3 consecutive months on first day of weekly hemodialysis. We recorded age, gender, cause of dialysis, diabetes, dialysis vintage, PPI and diuretic use from dialysis files. All were dialyzed with dialysate mg level of 1meq/l. Then we compared serum level of mg in PPI user and nonuser groups.
Results. We screened 100 hemodialysis patients for inclusion. Among 72 HD patients included in the study, 38 (%52.8) of participants were male and 34 (47.2%) were female. Mean age was 60 years old. Nineteen patients(26.4%) were PPI user and 53 patients(73.6%) were PPI nonuser. The mean time of PPI use was 6 months.All patients dialyzed by dialysate mg 1 meq/l. There were no significant differences in mean age, gender, dialysis vintage, diabetes,anuria and diuretic use in PPI user group vs PPI nonuser group.(*P* value: 0.13, 0.98,0.5, 0.09,0.58,0.14 respectively). There were no significant differences in KT/V, URR, calcium, i PTH, potassium and CRP in PPI user group vs PPI nonuser group(*P* value: 0.13, 0.14, 0.08, 0.65, 0.14 respectively). Serum level of phosphor was lower significantly in PPI user group vs nonuser.(5.1 ± 1 vs 6.1 ± 3, *P* value: 0.03) Serum level of albumin was higher significantly in PPI user group vs nonuser.(4.5 ± 0.6 vs 4.3 ± 0.4, *P* value: 0.02)Serum level of mg was not significantly different in PPI user and nonuser groups. (2.1 ± 0.04 vs 2.07 ± 0.04, *P* value: 0.6) Serum level of mg in 27 diabetic patients was lower significantly vs 45 nondiabetic patients .(1.9 ± 0.44 vs 2.1 ± 0.43, *P* value: 0.02)
Conclusion. In our study we couldn,t find significant difference in

serum level of mg between PPI user and nonuser groups. But we found lower level of seum ph and higher level of serum albumin in PPI user group. Maybe because of better nutritional state in PPI user group or dialysate mg 1 meq/l in all patients, we couldn,t find any difference im mg level. Further studies is required to determine mg levels among PPI users on HD.

1324 Outcome of Acute Kidney Injury in Covid-19 Disease

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Introduction. Despite the high incidence of AKI in patients with Covid-19, its characteristics and consequences have not been well studied

Methods. This retrospective cohort study investigated the clinical characteristics, treatment methods, and outcome of Covid-19 patients over 18 years of age who were hospitalized from February 20th, 2020 to June 20th, 2020 (four months) in Imam Hossein Hospital in Tehran.

Results. From 367 patients with Covid-19, 104 patients (28%) were diagnosed with AKI at the time of admission or during hospitalization (86 patients (23%) in the first 24 hours (early) and 18 patients (5%) since the second day of hospitalization (late)). Concerning AKI stage, 20 patients (19%) were in stage 2, and 18 patients (17%) were in stage 3, and the cause of AKI in 52 patients (50%) was renal. Of all, 25 patients (24%) had transient AKI (improved in less than 48 hours) and 29 patients (28%) had persistent AKI (improved in 48 hours to 7 days). Moreover, 32 patients (31%) also developed acute kidney damage (AKD) (no improvement in AKI after 7 days). The mortality rate of AKI patients was higher in higher stages and in renal or unknown causes; however, there was no difference between early and late AKI

Conclusion. Since about one-third of the patients with AKI eventually develop AKD, it is of great importance to closely monitor all Covid-19 patients, especially the high-risk ones, to diagnose AKI and manage appropriate treatment.

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Evaluation of the Effects of Intravenous Vitamin C on Reducing Ferritin Levels in Patients with Chronic Renal Failure Undergoing Hemodialysis: A Clinical Trial Study

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Introduction. Administration of intravenous vitamin C in renal failure patients undergoing hemodialysis can reduce their ferritin levels. But little research has been carried out in this regard. Hence, the aim of this study is to determine the effect of intravenous vitamin C in reducing ferritin levels in patients with renal failure undergoing hemodialysis in Velayat Hospital of Qazvin.

Methods. The study population included patients with chronic renal failure undergoing hemodialysis who had been referred to Qazvin Hospital with iron deficiency anemia and high levels of ferritin. Patients were divided into intervention group A (N = 16) and control group B (N = 16). Group A was given intravenous ascorbic acid, while group B was given the same amount of distilled water as a placebo three times a week after each dialysis session for three months along with erythropoietin. In this study, the levels of laboratory parameters were assessed at the beginning and the end in an interval of three months.

Results. In patients who received vitamin C injections, mean ferritin level decreased at the end of the study (P = 0). But vitamin C intake had no effect on BUN, creatinine, sodium, potassium, TIBC, hemoglobin, platelets, length, and number of dialysis sessions. The only variable that significantly affected dialysis adequacy at the end of the study was dialysis adequacy at the beginning of the study.

Conclusion. The results of our study showed that vitamin C can reduce serum ferritin levels in hemodialysis patients. Therefore, it can be used as an adjunct in the treatment of anemia in patients.

1328 COVID-19 Progression in Kidney Transplant Recipients: A Single-center Case Series

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Introduction. The novel coronavirus disease 2019 (COVID-19) is a respiratory infection that has received much attention due to its rapid expansion. Currently, it has been revealed that patients with underlying disease, especially those with kidney disease are more prone to develop complications. Some studies associate kidney transplantation as a risk factor for COVID-19 progression; however, epidemiologic data that demonstrate this are amazingly rare.

Methods. we report on six kidney transplant recipients (median age 47 [41–55]) with confirmed or clinically suspected COVID-19

Results. The most common admission presentations were fever (83.3%), dyspnea, and myalgia. At baseline, immunosuppressive therapy was ceased, prednisolone dose was increased, and all patients received antiviral treatment including hydroxychloroquine and umifenovir. After a median follow-up of 11.5 days from admission, six patients (100%) developed acute kidney injury (AKI), 50% required intensive care unit (ICU) admission, and two patients (33.3%) deceased as a result of deterioration in respiratory status.

Conclusion. These findings demonstrate that respiratory involvement may be a risk indicator of in-hospital mortality in kidney recipients with COVID-19. In addition, AKI development in kidney recipients with COVID-19 is of utmost importance given the higher AKI occurrence in these patients compared with others. Therefore, more intensive attention should be paid to kidney transplant recipients with COVID-19.

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