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The Effect of Aromatherapy on Pruritus in Patients Undergoing Hemodialysis

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Introduction. One of the most common problems in patients with end stage renal failure undergoing hemodialysis is pruritus. Pruritus is an irritating sign that can affect directly on life quality of patients with chronic renal failure. Unfortunately, available treatments have been failed to relieve this sign and kidney transplantation is considered the definite treatment of this problem. But one of recent methods outlined to relieve pruritus is complementary medicine and the goal of this study is also to investigate the effect of aromatherapy on pruritus of patients undergoing hemodialysis
Methods. This study is a kind of pre and post clinical trial that was done in dialysis centers of hospitals affiliated to Isfahan University of Medical Sciences in 2009. An easy sampling was done among patients undergoing hemodialysis who were under hemodialysis three times weekly and each time for 3 to 5 hours and had pruritus score 3. All samples participated in the study were under massage by hand without fistula for 7 minutes using 3 to 5 mL oils of lavender, mint and tee tree diluted by 5% for two weeks (6 sessions).
Results. Twenty patients with end stage renal failure with pruritus completed the study. Analysis of data showed that aromatherapy relieves pruritus significantly.
Conclusions. Aromatherapy relieves pruritus in patients undergoing hemodialysis significantly but generalization and application of this method depend on more comprehensive and exact studies in this field.

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The Effect of Sodium and Ultra Filtration Profile Combination and Cold Dialysate on Hypotension During Hemodialysis and Its Symptoms

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Introduction. One of the most prevalent side effects of hemodialysis is intradialytic hypotension and its symptoms. Using sodium profiles 3 and ultra filtration profile 3 and cold dialysate are the ways to overcome this problem. Since none of these methods could control this complication lonely, this study was done to investigate the effect of combination of two methods on intradialytic hypotension.
Methods. This study was a cross over clinical trial in which 24 patients experienced intradialytic hypotension frequently, underwent three different methods of treatments during 9 successive hemodialysis sessions. Group 1 used sodium profile 3 and ultra filtration profile 3, group 2 underwent hemodialysis with cold dialysate, and group 3 received combination of both methods. Blood pressure was controlled before, during (3 times) and after hemodialysis.
Results. Findings showed that although there was no significant difference considering intradialytic hypotension and its symptoms in two groups of sodium profile 3 and ultra filtration profile 3 and cold dialysate and the combination group ($P > .05$), but there was a significant difference considering the mean of blood pressure in three groups ($P < .05$). In combination group, drop of systolic and diastolic blood pressure was less than that in groups using each of methods.
Conclusions. Concerning the decreased rate of hypotension using combination method, nurses can use this method to decrease intradialytic hypotension and help the patients undergo hemodialysis for enough time and improve their quality of life.

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Frequency of BK Virus Nephropathy Among Renal Transplant Recipients

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Introduction. BK Virus Nephropathy (BKVN) is a severe complication of renal transplantation and

recognized as a cause of graft loss in patients. We aimed to assess the frequency and clinical characteristic of BKVN.

Methods. In this descriptive analytical, cross sectional study, we prospectively investigated BK and JC virus infection, and BKVN among 31 unselected consecutive renal transplant recipient (21 men and 10 women) during the first year after renal transplantation. Urine was tested for presence of Decoy Cells (DC) and DNA of BK and JC virus (DNAuria) by PCR. The load of BK and JC virus in serum (Viremia) was assessed in patients with DNAuria 3, 6, 9, and 12 months after transplant. Renal biopsy was performed if allograft dysfunction or viral load > 107.

Results. The frequency of DC, BK and JC virus was 16.1%, 29%, and 22.6%, respectively. BK or JC viruria was found in 45.2% (n = 14 cases) of patients. BKVN was not detected in 1-year follow up of these patients.

Conclusions. Despite high frequency of BK virus infection, there was no case of BKVN among renal transplant recipients; therefore, it seems screening of all renal transplant recipients is not cost-effective.

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Seroprevalence of Hepatitis E Among Iranian Renal Transplant Recipients

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Introduction. Renal transplant recipients are known to be susceptible for viral infections with more severe clinical presentations compared to healthy persons. Hepatitis E is generally a self-limited disease that is caused by Hepatitis E virus. Recently, Hepatitis E becomes more important in organ transplant recipients, because of new findings regarding the chronicity potential in this patient group. This study was aimed to evaluate the seroprevalence of anti-HEV IgG among kidney transplant recipients of Urmia in the north-west region of Iran.

Methods. Ninety-one patients were selected randomly among patients who underwent kidney transplantation in Urmia, Iran. Each patient was experimented for anti-HEV IgG using ELISA method (Diapro, Italy).

Results. Twenty-eight subjects (30.8%) were seropositive for anti-HEV IgG. Seropositive cases are generally older than seronegative cases (P = .009). There was no correlation between HEV infection and the level of education (P = .21), the history of blood transfusion (P = .16), history of pre-transplantation hemodialysis (P = .23). There was no significant difference among the serum ALT level of anti-HEV seropositive and seronegative cases. Multinomial logistic regression indicated no significant relationship between HEV infection and increase in ALT levels, even when controlled for the treatment with Azathioprine (P = .79, OR=1.12).

Conclusion. The anti-HEV IgG has a high prevalence in Iranian kidney transplant recipients, and it is significantly higher in comparison with previous studies in general population or hemodialysis patients. This could be of great clinical importance considering the probable persistent HEV infection in the setting of graft recipients suggested in the literature.

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Comparison of the Effects of Sirolimus and Cyclosporine on Left Ventricular Hypertrophy in Kidney Transplant Recipients, A 1-Year Single Center Prospective Cohort Study in Dr. Shariati Hospital, Tehran, Iran

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Introduction. Left Ventricular Hypertrophy (LVH) is an independent risk factor for death and cardiovascular disease in kidney transplant recipients. Here, we compared the effects of Cyclosporine and Sirolimus (SRL) on LV Mass Index (LVMI) one year after renal transplantation.

Methods. Fifty-five end-stage renal disease patients who had LVH without diabetes and hypertension and received single-kidney transplant from living unrelated donor during year 2009 to 2010 were selected. Patients were randomly divided into either SRL group (n=19) or control (received Cyclosporine, n=36). Patients' blood pressure (BP) was checked twice per month and conventional

antihypertensive therapy was used to keep BP on ≤ 130/80 mmHg. Left Ventricular Mass (LVM), LVMI, Left Ventricular End Diastolic Dimension (LVEDD), Inter Ventricular Septal Dimension (IVSD), and Posterior Wall Dimension (PWD) was measured by echocardiography at baseline and 1 year after transplantation.

Results. Two groups were matched based on age and gender (male 63.16% in SRL vs 58.3% in control). We detected a significant regression of LVH in patients on SRL compared to control group ($P < .0001$). In contrast to control group, significant decrease in LVMI (137.59 versus 108.08 g/m2; $P < .0001$), IVSD (12.86 versus 10.79 mm, $P < .0001$) and PWD (13.03 versus 10.98 mm, $P < .0001$), compared to base line was observed in SRL group. Changes in other variables including LVEDD and BP in two groups were not significant.

Conclusions. SRL therapy may cause regression in LVH in renal transplant recipients, mainly by decreasing LV wall thickness, without affecting the LVEDD and BP. Effect of SRL on LVM most probably does not have a hemodynamic origin. Future multi-center studies with larger sample size are recommended to establish the effectiveness of SRL for better cardiovascular outcomes in renal transplant recipients.

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The Effect of Pentoxyphiline for Reduce of Erythropoietin Needs in Hemodialysis Patients

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Introduction. Anemia in hemodilysis patients is a major problem in untreated patients. The primary mechanism of anemia in these patients is inadequate production of erythropoietin by kidney. Since a large number of dialysis patients despite receiving adequate doses of erythropoietin are still anemic, to use a medication that improves response of patients to erythropoietin therapy can prevent next disorders such as cardiovascular diseases. Therefore, we evaluate the effect of Pentoxyphilin to reduce erythropoietin required dose in hemodialysis patient in Alzahra hospital. The aim of this study was the reduction of dose of erythropoietin in drug group.

Methods. This study was a randomized clinical trial at hemodialysis center in Alzahra hospital in Isfahan. Fifty patients were randomly divided in two groups. Twenty-five patients in drug group that received one Pentoxyphilin tablet (400 mg/d, Amin factory) and 25 patients in placebo group that received one placebo tablet per day from the same factory. Duration of study was 6 months. Inclusion criteria were hemoglobin below 10.7 and using of at least 12000 UI of EPO per week. During the study, Patients visited by the physician in terms of side effects including dyspepsia, nausea, vomiting, headache, vertigo, angina-like pain, and tremor, monthly. At the beginning and end of the study, hemoglobin, albumin, iron, TIBC, ferritin, PTH, and dose of erythropoietin were measured. The response of patients evaluated by hemoglobin level (increasing one g/dl per month in hemoglobin level was considered to proper response to target hemoglobin levels that reached 12 g/dL) and the doses of EPO was evaluated at the end of the study.

Results. According to results of this study, erythropoietin needs didn't decrease in Pentoxyphilin group and the difference between two groups was not statistically significant ($P > .05$). In addition serum hemoglobin, iron, and ferritin was not increased in Pentoxyphilin group.

Conclusions. Considering the lack of significant increase in hemoglobin and iron and ferritin levels in drug group, it should be better to continue the study with greater sample size and longer time to obtain definite result.

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The Effect of Aerobic Exercise on the Symptoms of Restless Leg Syndrome and Quality of Life in Hemodialysis Patients

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Introduction. Restless leg syndrome (RLS) is a sensory motor disorder that is characterized by motor restlessness resulting in an uncontrolled urge

to move the affected body part. The symptoms are accentuated during rest, later in the day, and during the early night and are usually but not always associated with disagreeable leg sensations. RLS has been treated pharmacologically with satisfactory results; however, side effect and rebound phenomena have been reported. The aim of current study were to evaluate the effect of 16 weeks aerobic exercise training in the severity of RLS and the quality of life of patients with RLS on hemodialysis.
Methods. Twenty-six patients on hemodialysis with untreated RLS were assigned to either the exercise group (n = 13) and or to the control group (n = 13). The exercise group participated in supervised intradialytic aerobic exercise training and the control group continued usual activities.
Results. There was a significant reduction of RLS score (P = .003) but no significant improvement of quality of life (P = .6) in exercise group in comparison with placebo group.
Conclusions. Aerobic exercise training is effective in reducing RLS complaintsbut not in improving of quality of life in patients with RLS on hemodialysis.

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Is There Any Difference Between Use of Gentamycin and Mupirocin Ointments in Decrease Exit Site Infection Ratio in Peritoneal Dialysis Patients?

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Introduction. More than thirty-five thousands end-stage renal disease patients initiated renal replacement therapy in recent years in Iran. Two main dialysis modalities for these patients are Peritoneal Dialysis (PD) and haemodialysis. The peritoneal membrane is used as blood filter in PD method but this is not without complications. The most important complications are staphylococcus aureus peritoneal exit site infections (ESI) and consequently peritonitis that may cause to removal of the peritoneal catheter. We do not have any established treatment for such situations; therefore, antibiotics prophylaxis maybe a good idea for decrease ESI rates. As there was no clear data about the best ESI antibiotic prophylaxis regiment in Iran, we decided to compare the effect of local application of Mupirocin versus Gentamycin ointments to decrease ESI ratio in Isfahan, Iran.
Methods. This clinical trial study was performed on PD patients in Isfahan PD centers in 2009 to 2010. After sample selection according to inclusion criteria, they were divided to two groups randomly, one group received Gentamycin and another group received Mupirocin for a six month period. All patients were instructed about the correct way of daily use of local ointments. They were examined for the presentations of ESI before, along and at the end of the study. Finally, prevalence of ESI was compared in two groups by chi-square.
Results. From 130 patients in PD centers of Isfahan, 121 were enrolled to the study. Then, they were divided randomly to sixty patients (eighteen males, forty-two females) with the mean age of 59 ± 16.4 years and sixty one (thirty two males and twenty-nine females) with average 51 ± 14.6 years old that received Gentamycin and Mupirocin, respectively. Three of them were died from cardiovascular accidents and one was excluded because of renal transplantation in duration of study. After six months, in Gentamycin used group, eight patients had acute exit site infection but there was no exit site infection in another group that shows statistically significant difference between two groups (P < .0001).
Conclusions. Our study shows the risk of ESI was increased in Gentamycin used patients versus who used Mupirocin. Therefore, we recommend use of Mupirocin to decrease ESI and perhaps peritonitis chance in PD patients.

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Mono-Symptomatic and Non–Mono Symptomatic Nocturnal Enuresis, A Clinical Evaluation

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Introduction. According to association of daytime symptoms, nocturnal enuresis is divided into 2

subgroups: mono-symptomatic (MNE) and non-mono symptomatic (NMNE) forms .This study was conducted to review clinical and ultrasonography findings in different subtypes of enuresis and compare organic and functional pathologies of lower urinary tract in children with MNE with those who have NMNE.

Methods. During 3-year period neurologically normal children with enuresis who referred nephrology clinic were enrolled study. Urinalysis, urine culture, and ultrasonography were done for all. Voiding CystoUreteroGraphy (VCUG) was used to evaluate anatomy of lower urinary tract and Urodynamic Studies (UDS) were done to assess bladder function.

Results. Hundred and eleven children enrolled study (60 boys and 51 girls). Forty-three (38.8%) with MNE and 68 (61.2%) with NMNE, aged 5 to 17 years. Constipation, encopresis, and urge incontinence were significantly more frequent in patients with NMNE + daytime incontinence ($P < .05$). Increased of bladder wall thickness and irregularity of bladder wall were the most common findings ($P > .05$). One patient with MNE and 9 with NMNE+ daytime incontinence had vesicoureteral reflux ($P = .02$). Evidences of bladder dysfunction were noted in about half of patients who underwent UDS, with higher prevalence in cases with NMNE + daytime urinary incontinence ($P > .05$).

Conclusions. Bowel symptoms and urological abnormalities of lower urinary tract are significantly more prevalent in cases with NMNE who have daytime incontinence. We recommend VCUG in patients with NMNE who have daytime incontinence.

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Role of High Dose Hydrochlorothiazide in Hypercalciuric Urolithiasis of Childhood

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Introduction. Hypercalciuria is one of the most common metabolic factors responsible for stone formation in pediatric stone formers. This study was designed to analyze the role of Hydrochlorothiazide (HCTZ) in pediatric stone formers with hypercalciuric urolithiasis considering hypocalciuric action of the drug and to define possible factors affecting response to the drug.

Methods. In a 2 year period (2007 to 2008), 19 pediatric stone formers with idiopathic hypercalciuric urolithiasis prospectively were evaluated at a single academic center. Patients followed every 2 to 3 months by checking urine specific gravity, urine PH and urine calcium and Cr excretion (in 24-hour or random urine) and renal Ultrasonography (US). HCTZ was recommended in a dosage of 1 to 2 mg/kg/d with polycira-potassium (combination of citric-acid and potassium citrate) 1 meq/Kg/d.

Results. Out of 19 patients, 12 (63.2%) were female and 7 (36.8%) were male (F/M ratio = 1.7). Eleven patients (57.2%) had a history of urolithiasis in their relatives and 7 (36.4%) did not have any family history of stone. In 2 cases, the family history was unknown. Patients received HCTZ for 2.5 to 15 months (6 ± 3 months). Seven patients (36.8%) reached normocalciuria. Resolution of hypercalciuria associated with decreased stones sizes was seen in 1 (5.3%) and stone free condition in 4 (20%) patients. In 3 patients, although urinary calcium excretion reached the normal limits, stones sizes did not change during follow up.

Conclusions. Although approximately in 50% of patients after treatment with HCTZ, calcium excretion rate returned to normal range, stone size changes seen in 5 (26.2%). Interestingly, all 5 patients with favorable response were female. According to our study, combination of diet modification and HCTZ has reasonable hypocalciuric effects, but it is not efficient in stopping stone formation process.

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Withdrawal From Peritoneal Dialysis and Switching to Hemodialysis in Chronic Peritoneal Dialysis Patients

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Introduction. Peritoneal Dialysis (PD) and hemodialysis are treatment options as renal replacement therapies for end-stage renal disease patients. Switching between PD and hemodialysis occurs due to several reasons. In the present study, we aimed at evaluating the causes of stopping PD and switching to hemodialysis.
Methods. We analyzed the data of Iranian PD registry and retrospectively investigated PD patients of five PD centers in Iran. All patients who had spent at least three months on PD were included.
Results. A total of 780 patients with mean age of 50.8 years were under follow up of these centers. They were all on chronic ambulatory PD with no cases of automated PD. 428 patients were female (54%). Five hundred forty five patients (70%) were put on PD from the beginning, while 235 (30%) were switched from hemodialysis to PD, with 91 of them (38%) had underwent 6 or more sessions of hemodialysis. PD as the first line of RRT was selected in 79% (positive selection). Switching from PD to hemodialysis occurred in 121 patients (15%). The reasons for that were peritonitis (n = 62, 51%), mechanical problems (n = 19, 16%), PD failure (n = 18, 15%), catheter dysfunction (n = 8, 6%), and the patients' decision (n = 3, 2%).
Conclusions. Peritonitis contributes to most cases of withdrawal from PD to hemodialysis. Reduction of the peritonitis rate with appropriate measures could decrease the rate of withdrawal from PD.

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Comparing The Effect of Unfractionated Heparin with Low Molecular Weight Heparin on Serum Potassium Level in Hemodialysis Patients

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Introduction. Administration of Unfractionated Heparin (UFH) is associated with rising of serum potassium, particularly in patients with renal failure. As an anticoagulant during hemodialysis, it is not yet clear whether Low Molecular Weight Heparin (LMWH) could reduce the risk of hyperkalemia in chronic hemodialysis patients.
Methods. We performed a randomized case-control study at Shahid Faghihi hemodialysis center. A total of 40 patients with at least 6 months duration on hemodialysis were selected and were randomized to case and control groups with 20 patients in each group. The case group received UFH 5000 unit intravenously (IV) and control group Enoxaparin 40 milligram IV, both as single bolus without any additional dosages, for intradialytic anticoagulation. Serum levels of potassium, BUN, and phosphate were measured at the beginning and after 4 weeks.
Results. As rough indices of nutritional status and hemodialysis efficacy, there was no significant difference between two groups in terms of BUN and phosphate level, at the beginning and the end of the study. Of those receiving UFH and LMWH, 6 (30%) and 7 (35%) had diabetes mellitus, respectively (P = .500).The serum level of potassium decreased significantly after 4 weeks of Enoxaparin (4.5 ± 0.5 versus 4.3 ± 0.4, P = .001) while it remained unchanged in those receiving UFH (4.6 ± 0.6 versus 4.6 ± 0.5, P = .486). The reduction of serum potassium was also significant in diabetic patients receiving Enoxaparin (4.8 ± 0.5 versus 4.6 ± 0.6, P = .006), but not in UFH group with diabetes (4.8 ± 0.6 versus 4.7 ± 0.6, P = .876).
Conclusions. For anticoagulation during hemodialysis, replacing UFH by LMWH can reduce serum potassium level in chronic hemodialysis patients.

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Outcome and Clinical Findings of Peritoneal Dialysis Patients in Isfahan, Iran

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Introduction. There are more than 150 active

peritoneal dialysis (PD) patients under treatment in Al-Zahra medical center in Isfahan. This center has been launched since year 2000. We evaluated the outcome and clinical findings of our PD patients to assess the quality of treatment in peritoneal dialysis patients.

Methods. It is an observational descriptive study done on 2011. The information was attained from all patients' records in Al-Zahra medical center from 2005 until end of year 2009. A total of 243 patients' records were evaluated.

Results. 1) Patients' outcome were 2%, 15%, 12%, 23%, and 48% for recovery of renal disease, return to hemodialysis, transplantation, death, and active PD; respectively. 2) In general, 15% of patients referred to hemodialysis. The causes of referral to hemodialysis were: peritonitis (53%), membrane failure (22%), catheter malfunction (11%), patient choice (5.5%), mechanical dysfunction (5.5%), and others (3%). 3) The prevalence of diabetes mellitus, hypertension, congestive heart failure, coronary artery disease, and respiratory disease were 38%, 67%, 25%, 13%, and 5%; respectively. The prevalence of cerebrovascular disease, cirrhosis, and cancer each were < 0.1%. 4) Peripheral edema was absent in about 50% of patients. 5) The appetite of our patients was appropriate, intermediate, and bad in 17%, 78%, and 5%; respectively. 6) Of 243 patients, 23% died, and of 47 patients who died, 2% death due to PD causes and of 46 death due to non PD causes, 78.5% due to cardiac disease, 2% for each infection and cerebral disease, and 17.5% are unknown. 7) The result of peritoneal equilibration test (PET) showed low transporter and high transporter were the least common (9%) and the most common (44%) type of PET, respectively.

Conclusions. Peritonitis was the least common cause of mortality in our patients. Transplantation was the most common cause of PD patient loss. The most common cause of mortality was cardiovascular disease.

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Laboratory Evaluation of Peritoneal Dialysis Patients in Isfahan, Iran

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Introduction. There are more than 150 active Peritoneal Dialysis (PD) patients under treatment in Al-Zahra medical center in Isfahan. This center has been launched since 2000. We evaluated the laboratory values of our PD patients to assess the quality of management.

Methods. It is an observational descriptive study done in 2011. The information was collected from all patients' records in Al-Zahra medical center from 2005 until end of year 2009. A total of 243 patients' records were evaluated.

Results. 1) Peritonitis episodes have happened in 50 patients, of these 1, 2, 3, 4, and 6 episodes have occurred in 68%, 20%, 6%, 4%, and 2% of patients, respectively. 2) Exit site infection has occurred in only 15 patients, of these patients, 87% had only one episode. 3) The most common organism in peritonitis was staphylococcus epidermidis (29%) and the next was staphylococcus aureus (8%). 29% of our cultures were negative. 4) Laboratory results for mean hemoglobin (Hb), creatinine and parathyroid hormone (PTH) levels were 10± 1.7 g/dL, 6.3 ± 2.6 mg/dL, and 181 ± 182 pg/mL, respectively. For serum Ca, serum phosphate, and serum albumin were 8.6 ± 0.65 mg/dL, 4.6 ± 1.24 mg/dL, and 3.6 ± 0.58 g/dL, respectively. 5) The mean serum level for cholesterol, triglyceride, LDL, and HDL were 187 ± 49, 168 ± 93, 113 ± 33, and 38 ± 7.3 mg/dL, respectively. 6) The mean 24-hour urine volume and 24-hour peritoneal net ultrafiltration volume were 740 ± 623 mL and 887 ± 548 mL, respectively.

Conclusions. The most common organism in peritonitis was staphylococcus epidermidis like other references and serum level of Hb, Ca, P, and PTH were at desirable level but albumin level was lower than our expectation.

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Evaluation of Serum Zinc Concentration in Dialysis Patients Compared with Normal Control

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Introduction. Homeostasis of trace elements including Zinc (Zn) is essential for metabolic processes and immune system. In this study, we measured blood level of Zn in patients under hemodialysis and patients under peritoneal dialysis and normal healthy adults (control), and then compared the results in three groups.
Methods. We measured fasting level of Zn with spectrophotometry in patients of the three groups in Imam Reza hospital. We also measured hsCRP with integra-immuno turbio metric assay. The patients with malnutrition were excluded from study.
Results. We studied 40 patients in a group under peritoneal dialysis, 39 patients in a group under hemodialysis and 47 normal healthy subjects in last group. Patients and control group were matched for age and sex. Level of Zn in patients under peritoneal dialysis was lower from the other two groups, and in patients under hemodialysis it was lower than normal healthy subjects. Difference between two groups of patients under hemodialysis and peritoneal dialysis was not statistically significant ($P = .09$).
Conclusions. According to lower level of Zn in patients under dialysis is suggested that these patients check for blood levels of Zn and consider zinc supplement if needed. Further studies are recommended in this regard.

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Effect of Renal Transplantation on Biomarkers of Inflammation in End-Stage Renal Disease Patients

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Introduction. The role of cytokines as inflammatory mediators in the outcome of transplanted kidney is suggested recently and inflammatory factors are suggested as risk factors for cardiovascular disease in End Stage Renal Disease (ESRD) patients. This study aimed to assess these inflammatory mediators before and six months after renal transplantation.
Methods. Patients who underwent renal transplantation in Imam Reza hospital from March 2009 to April 2010 enrolled in this study. Conventional cardiovascular risk factors together with three main inflammatory factors such as hs-CRP, TNF-α, and IL-6 as nonconventional risk factors for end stage renal disease patients were evaluated before and six months after renal transplantation.
Results. Thirty patients with mean age of 38.6 years were included. The most common conventional cardiovascular risk factors were family history, smoking, and dyslipidemia. Blood pressure, glucose, liver enzymes, triglycerides, and white cell count did not differ significantly after renal transplantation but phosphorus, urea, creatinin, PTH, Na, and K decreased significantly after renal transplantation. Inflammatory markers including hs-CRP and IL6 also decreased, but TNF-α significantly increased after renal transplantation.
Conclusions. Renal transplantation improves blood biochemistry in ESRD patients and may decrease the risk of cardiovascular diseases by controlling the inflammatory state.

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Echocardiographic Evaluation of Left Ventricle in Patients With Mild Hypertension in Comparison With Control Group, a Historical Cohort Study

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Introduction. Systemic hypertension is one of the major risk factor of heart failure and especially left ventricle dysfunction. Mild hypertension is mostly asymptomatic and remains as silent health problem for years that can lead to morphologic changes and functional alterations in myocardial structure. This study was designed to determine the left ventricle morphologic change in mild hypertensive patients compared with normal population using 2-dimentional echocardiography.
Methods. During this historical cohort study, 38 mild hypertensive participants in comparison with 37 normotensive ones were enroled for left ventricle echocardiographic assessment. Smokers, alcoholic, history antihypertensive therapy, and some other characteristics were excluded from this study. Student t-test and ANOVA were selected statistical tests for analysis on SPSS version 19.
Results. The mean age of the study population was 47.45 ± 9.35 years. Ejection fraction had

significant difference in two groups (P = .001) also interventricular septum and posterior wall in end systolic and end diastolic phase had meaningful difference (P < .05). LV mass index in two groups had significant difference too (P = .001).
Conclusions. The major parameters of left ventricle such as LV mass index and ejection fraction in mild hypertensive participants were in worse situation than normal group so that screening of hypertension in normal populations for early diagnosis and adequate therapeutic measures are recommended to avoid irreversible left ventricular dysfunctions.

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Relation Between Secondary Hyperparathyroidism and Left Ventricular Hypertrophy in Hemodialysis Patients

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Introduction. Patients with End-Stage Renal Disease (ESRD) may suffer cardiac abnormalities such as ventricular hypertrophy. Parathyroid Hormone (PTH) level has correlation with left ventricular mass in ESRD.
Methods. During this analytical cross-sectional study, patients evaluated by echocardiography for Left Ventricular Hypertrophy (LVH) and PTH was measured.

Results. Forty-six patients enrolled to the study. The mean age was 55 ± 5 years old. Twenty-seven (59%) patients were male and 19 (41%) females. Patients divided into 3 groups according to serum PTH: group I, 26 patients (56%) with PTH < 150 pg/mL; group II, 16 patients (35%) with 150 < PTH < 300 pg/mL; and group III, 4 patients (9%) with PTH > 300 pg/mL. Minimum and maximum PTH was 15 and 589, respectively. The mean PTH was 150 ± 127 pg/mL. Data were analyzed by SPSS and chi-square. LVH reported 60%, 66%, and 100% in group I, II, and III, repectively. Finally, a positive significant association between LVH and PTH was identified. PTH and LVH were correlated in patients with high PTH levels (P = .049).
Conclusions. We observed that patients with high PTH level have increased rate of LVH.

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Improvement of Renal Function and Massive Pericardial Effusion After Treatment of Severe Hypothyroidism

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Introduction. Thyroid hormones affect the functions of almost every body organ or tissue and hypothyroidism produces a wide range of metabolic disturbances. Primary hypothyroidism is associated with an elevation in serum creatinine level. This is essentially occurs in hypothyroidism because of the hypo-dynamic state, leading to reducing glomerular filtration rate and hypercreatinemia.
Case Reports. A 50-year old woman came to our hospital due to generalized weakness, drowsiness, and generalized edema since one month before admission. She has history of diabetes mellitus and hypertension since 2 years ago. Physical examination revealed bradycardia (50 bpm), pallor, and generalized body edema. Laboratory data showed: creatinine 4.5 mg/dL; blood urea nitrogen 135 mg/dL; K 4.5 meq/L; thyroid stimulating hormone 27 mIU/mL; T_4 2 .1 µg/dL; T_3 53 µg/dL; T_3 RU 33%; antithyroproxidase 120 IU/mL; 24-hour urine collection 259 mg/dL, and estimated GFR 25 cc/min. In hospital course, she developed massive pericardial effusion. After 8 months of treatment with thyroxin (350 mcg/d), the patient returned without any symptoms and signs. The results of tests were: creatinine 1.6 mg/dL; blood urea nitrogen 97 mg/dL; thyroid stimulating hormone 5; T_4 4.5 µg/dL; T_3 60 µg/dL; T_3 RU 33%; and estimated GFR 63 cc/min. Her pericardial effusion was resolved.
Conclusions. It seems hypothyroid can cause renal impairment or worsen renal function in preexisting illness. So diagnosis and treatment of hypothyroid patients with thyroxin in progressive renal failure could be very important in delaying the need for renal replacement therapy.