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P101

Comparison of Enterocystoplasty and Ureterocystoplasty Before Kidney Transplantation With the Control Group

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Introduction. In this study we compared two surgical methods of bladder augmentation; Enterocystoplasty (EC) and ureterocystoplasty (UC) before kidney transplantation (renal transplantation). Also we compared the outcome of these two methods with recipients of kidney who had normal bladder function.

Methods. During a 22-year period (1988 to 2010) 1600 renal transplantation were performed in our center by a fixed team. In 16 patients (mean age, 18.81 years) enterocystoplasty (group A) and in 9 patients (mean age, 11.50 years) ureterocystoplasty (group B) were performed before renal transplantation. These two groups were compared with a control group of 30 recipients with a normal bladder (group C, mean age; 15.63 years) for kidney function, graft and patient survival and episodes of urinary tract infection.

Results. There was normal graft function in 11, 7, and 24 patients of groups A, B, and C; respectively, over the mean follow up time of 82, 63, and 72 months ($P < 0.05$). Mean serum creatinine during follow up was 1.72 ± 0.31 , 1.37 ± 0.13 , and 1.33 ± 0.59 mg/dL in groups A, B, and C; respectively. There was not any statistically significant difference among these 3 groups in 1, 5, and 10 year graft and patient survivals. Episodes of febrile UTI requiring hospital admission were 23, 6, and 2 in groups A, B, and C; respectively. UTI and urosepsis were significantly more frequent in group A than group B ($P = 0.03$) and group C ($P = 0.001$), but there was not a significant difference between groups B and C ($P = 0.31$).

Conclusion. Although augmentation cystoplasty (AC) with segment of intestine or dilated ureter is a safe and effective procedure for reconstruction of lower urinary tract before renal transplantation, in recipients with EC the frequency of febrile UTI

and urosepsis is high and sometimes dangerous. In long term there is no significant difference in graft function among the 3 groups. As a result AC of both methods is recommended before renal transplantation for reconstruction of lower urinary tract depending on specific condition of recipient.

P102

A Study of Social Effects of Nocturnal Enuresis in Children Admitted to Pediatric Nephrology Clinic

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Introduction. Nocturnal enuresis is one of the most common complaints in the childhood which is a troublesome problem for both child and parents. In this study, we focused on the negative social effects of nocturnal enuresis that can have serious impacts on the child's current and future life.

Methods. This is a descriptive study on 97 children with nocturnal enuresis, admitted to the clinic of nephrology. Data were collected using questionnaires which were filled by parents. When required, we helped them to fill the questionnaires. **Results.** We studied 55 (56%) boys and 42 girls (44%) with the average age of 6.4 years. Fifty nine were from rural areas (60%) and 38 children lived in the urban areas (40%). Parents were questioned about any family history of nocturnal enuresis. 17% reported a similar history for the child's father, 8% for the mother, 2% for the brother, and 1% for the child's sister. Overall, 28% reported the same history in their first degree relatives. Among the admitted children, 77% were sleeping in their parents' bedroom. 11% do not like to communicate with other children in the same age. 73% had feared to go to late night family gatherings. 86% of the parents mentioned that, due to this problem, they do not stay at their relatives' home overnight. Finally, only 37% of these children already had a medical visit for nocturnal enuresis.

Conclusion. Regarding the obtained results of this study, the problem of nocturnal enuresis in children warrants more attention in order to prevent its social effects.

P103

A Survey on Relationship Between Chronic Constipation and UTI in 1 to 15 Years Old Children

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Introduction. Urinary tract infection is the second most common bacterial disease in children which if misdiagnosed or treated improperly, causes serious complications such as hypertension, renal scar and chronic renal failure. There are several risk factors for UTI in children, one of them is constipation. The aim of this study is to determine the relation between UTI and chronic constipation in 1 to 15 years old children.

Methods. In this study we compared 105 children 1 to 15 years old suffering from chronic constipation with 104 children without chronic constipation during one year period. Both groups were matched in sex and age. We studied the prevalence of UTI, daily, and nocturnal urinary incontinence in these groups. We also evaluated the prevalence of UTI after resolution of constipation.

Results. The prevalence of UTI in case and control groups was 13.3% and 6.7% respectively, with no statistical meaningful difference between groups. The prevalence of UTI in patients without anatomical urinary anomalies after treatment of chronic constipation decreased to 3.8%. The most common pathogen reported in these two groups was escherichia coli (E coli). The prevalence of daily and nocturnal urinary incontinence in case group was 5.1% and 14%; and in control group, it was 1.3% and 11%; respectively. There was not any meaningful significant difference between these groups regarding to urinary incontinence.

Conclusion. Regarding the two fold prevalence of UTI in children presenting with chronic constipation versus control group and decreasing UTI following constipation treatment it seems that constipation is a predisposing factor in UTI although in this study we didn't have meaningful statistical difference. On the other hand higher prevalence of urinary incontinence in case group in comparison to control group may demonstrate the likelihood of relation between them. Further studies in this field are

recommended.

P104

Assessment of Epidemiology of Urinary Incontinence and Influencing Factors in Preschool Children

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Introduction. The aim of study was to assess epidemiology of urinary incontinence & influential factors in preschool age children in Varamin city.

Method. In this assessment, 600 in preschool children were selected from the day care centers with clustered randomization. Questionnaires were completed by parents. Data were analyzed with fisher test, independent sample t- test and chi square test.

Results. Total prevalence of urinary incontinence was 25.5% in preschool children. Finding showed there are significant relation between urinary incontinence with social-economy level, parents' education level, parents' job, number of household members, breast feeding in childhood, number of daily use of restroom and having sleep disorder. From 153 children that had urinary incontinence 18 children had day incontinency during sleep and 26 had incontinency when awake.

Conclusion. Findings showed there is high prevalence of urinary incontinence in preschool age children in Varamin city.

P105

Association of Enuresis and Bedwetting With VUR and Renal Cortical Damage

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Introduction. To clarify association of nocturnal enuresis and VUR and define enuretic children who are at risk of having urological abnormalities.

Methods. Patients referred our clinic with chief complaint of nocturnal enuresis or bed wetting were prospectively evaluated for lower urinary tract anomalies and renal cortical defects by doing voiding cystourethrogram (VCUG) and TC99-DMSA

scan in a 3 years period (2007 to 2009). Inclusion criteria were neurologically normal children with abnormal renal ultrasonography (US), daytime urinary incontinence, abnormality in urodynamic studies (UDS), and history of UTI or cases with history of VUR in their siblings.

Results. 77 of 131 children (31 boys and 46 girls) between 3 to 17 years old (mean age, 7.57 ± 2.77) enrolled to the study. 17 patients were < 5 years old. In enuretic group (age ≥ 5 years) forms of enuresis were primary in 50 (83.3%) and secondary in 9 (15%) patients. 28 (46.7%) had monosymptomatic nocturnal enuresis (MNE) and 32 (53.3%) non-monosymptomatic nocturnal enuresis (NMNE). Urological abnormalities including VUR and PUV were reported in 17 (22%) and 1 (1.3%); respectively. Actually VUR was found at least in 17 of 131 (13%) of total children. A statistical analysis was performed to determine the differences in clinical data between groups with and without VUR. VUR was reported in children with daytime incontinence and also girls with a statistically significant difference ($P = 0.016$ and 0.003 , respectively). Of 19 renal scintigrams 8 (42.1%) showed renal cortical defects uni- or bilaterally; 3 in patients with MNE, 4 in children with NMNE and one in a child < 5 years with bedwetting. Interestingly the form of enuresis was primary in all cases with abnormal renal scan. It was true for 9 of children with normal renal scan. Two children had secondary enuresis and normal renal scintigram. ($P = 0.49$)

Conclusion. Urological abnormalities such as VUR are not uncommon in enuretic children, and compared to patients with MNE, cases with NMNE are at greater risk for having urological abnormalities especially VUR. So, VCUG is recommended in all cases of NMNE. We found that positive family history of enuresis doesn't guarantee the safe nature and course of enuresis.

P106

BK Virus in Urine of Kidney Transplanted Children, a Comparison With Normal Population

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Introduction. In transplanted patients, consumption of high doses of steroid, mycophenolatemofetile

and tacrolimus have been considered as risk factors for BK virus nephropathy. To determine the presence of BK virus in urine of kidney transplanted children and children with focal segmental glomerulosclerosis (FSGS) in comparison with normal population.

Methods. This cross sectional study was carried out on 79 immunocompromised children under 18 years (39 kidney transplanted and 40 with FSGS) and 52 normal population at St. Alzahra hospital, Isfahan from June 2009 to July 2010. The informed consent was obtained from children over 6 years or their parents. Children with idiopathic FSGS who had consumed mycophenolatemofetil with or without cyclosporine or steroid for at least 3 to 6 months. Children who underwent kidney transplantation for at least 3 to 6 months before study and had received mycophenolatemofetil with cyclosporine, tacrolimus, and steroid. Normal glomerular filtration rate (GFR = 90 mL/min) for case and control groups, without history of recent urinary tract infection. Urine BK virus was detected by PCR method. DNA was extracted from the first morning urine by chloroform method. VP1 gene specific primer was prepared based on a 176bp length segment.

Results. Two patients in kidney transplanted group, 3 patients in FSGS group, and 6 people in control group had positive PCR for urinary BK virus. There was not significant difference between the mean of positive urinary BKV PCR in immunocompromised and immunocompetent groups ($P > 0.05$). Mean of GFR in positive and negative urinary BK virus groups were 125 ± 30.8 and 132.2 ± 42.5 mL/min, respectively ($P > 0.05$).

Conclusion. Although immunocompromised patients are susceptible to BK virus infection, there might be a large urinary shedding of BK virus in some of normal population which makes them prone to this infection when they become immunocompromised.

P107

Bladder Dysfunction in Children With Nocturnal Enuresis

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Introduction. To define frequency of bladder dysfunction in enuretic children, and determine factors predicting association of nocturnal enuresis and voiding dysfunction.

Methods. 60 pediatric patients with nocturnal enuresis between years 2007 to 2008, enrolled the study. All underwent uroflowmetry, CMG and EMG were performed in case of abnormal uroflowmetry or abnormal bladder US findings; NMNE with daytime incontinence or MNE in children \geq 10 years. VCUg was done in children with history of UTI, NMNE with daytime incontinence, abnormal UDS or abnormal renal US findings. Correlation between abnormal UDS with clinical and imaging parameters was analyzed.

Results. Uroflowmetry was performed for all and complete UDS (uroflowmetry +EMG and CMG) was done in 48 patients in arousal state; in 11 results of UDS were unreliable due to artifacts. The results were normal in 10 (16.7%) and 27 (45%) had abnormal UDS. According to CMG and EMG findings patients were divided into 5 groups: Group 1: normal capacity- normal compliance bladder (10), group 2: small capacity-low compliance bladder (15), group 3: normal capacity- low compliance bladder (2), group 4: low capacity- normal compliance bladder (8), group 5: high capacity- high compliance bladder (2).

Conclusion. Association of nocturnal enuresis and voiding dysfunction is common and small bladder capacity is the most common UDS findings. We couldn't find any direct association between clinical parameters or imaging findings and risk of bladder dysfunction. We believe daytime UDS which is more practical can replace night UDS in centers which don't have special facilities for doing night UDS.

P108

Bladder Volume Wall Index in Children With Urinary Tract Infection

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Introduction. To evaluate the bladder volume wall index in children with single and recurrent urinary tract infection.

Methods. 100 children (8 boys, 92 girls) aged 4

to 15 years with history of urinary tract infection, and 39 (20 male, 19 female) age matched healthy children with negative urine culture in previous month were enrolled in the study after taking consent from the parents. Kidney and bladder sonography were performed in all children. Bladder volume wall index was measured for which the result of 70 to 130 was presumed normal. Student t-test was used to compare means. The measured data were presented as quartile. *P* value $<$ 0.05 was considered significant.

Results. The mean bladder volume was 262.5 ± 82 in recurrent urinary tract infection, 235 ± 54 in single urinary tract infection, and 278 ± 80 in controls (*P* $<$ 0.05). The mean wide of empty bladder was significantly higher in children with urinary tract infection (*P* $<$ 0.05). The bladder was thick ($<$ 70) in 37 (28 cases, 9 controls) and it was thin ($>$ 130) in 38 (31 cases, 10 controls); (*P* $>$ 0.05). The mean residue was not different between groups. The abnormal BVWI in children with vesicoureteral reflux was 74% compared to 49% in those without reflux (RR = 1.5, *P* $<$ 0.05).

Conclusion. Children with urinary tract infection and abnormal bladder volume wall index are likely to have vesicoureteral reflux.

P109

Blood Pressure Profile in Renal Transplant Recipients and Its Relation to Diastolic Function: Tissue Doppler Echocardiographic Study

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Introduction. Hypertension is a common complication after renal transplantation and is associated with increased risk of cardiovascular disease. The aim of the current study was to investigate the diurnal blood pressure pattern and its relation to structural and functional cardiac changes in renal transplant recipients.

Methods. Sixty six stable renal transplant patients (34 females, 32 males), aged 7 to 25 years (mean 17.4 ± 4.3 years) were enrolled in this study. Cardiac function assessed by tissue Doppler

echocardiography and blood pressure measurements were performed using both ambulatory and casual methods. Hypertension was demonstrated in 57% of recipients by casual method and in 75.7% by ambulatory blood pressure monitoring (ABPM).

Results. The efficacy of BP control among patients on antihypertensive drugs was 60%. The prevalence of nondipping was 73%. There was significant inverse correlation between systolic or diastolic daytime or night time BP index and post transplant duration ($P < 0.001$, $r = -0.386$), but no correlation between ABP parameters and BMI, gender, and GFR. There was significant relationship between all ABP parameters and left ventricular mass index (LVMI), ($P = 0.025$ to 0.007 , $r = 0.28$ to 0.38). LVMI was significantly higher in hypertensive than in normotensive cases ($P = 0.034$).

Conclusion. There was neither difference in diastolic function between hypertensive and normotensive patients nor in patients with and without LVH. In conclusion our study showed the advantage of ABPM over casual method for diagnosis of hypertension. LVH is common in transplant patients and is likely associated with arterial hypertension. Hypertension and LVH can not differentiate transplant patients with diastolic malfunction.

P110

Brain Tumor as a Late Outcome of a Child With Nephrotic Syndrome, Is It any Association With Mycophenolate Mofetile?

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Introduction. The association of idiopathic nephrotic syndrome with lymphoma, colon carcinoma, or bronchogenic carcinoma has been reported. We presented a child with focal segmental sclerosis who lately presented with brain tumor eleven years after renal presentation.

Case Report. This was a 16-year old boy, presented with nephrotic syndrome since age 5 years. He was steroid responder at first but after subsequent relapses he became steroid dependent. Renal biopsy showed focal segmental glomerulosclerosis. Two years after presentation cyclosporine with dosage

of 4 mg/kg/d was started and hypertension was controlled with enalapril, losartan, and atenolol. But after one year he had massive proteinuria (6 g/d); therefore, mycophenolate mofetile (700 to 1000 mg/m²/d) was added to therapy and the full dosage was continued for 2 years and then tapered during another one year. The proteinuria gradually decreased to 1.6 g/d while GFR was normal (100 ml/min/1.73 m²). Afterward, enalapril and losartan only continued for another one year that was discontinued by the patient. There years later he presented with a sense of electric shock on his right hand and felt numbness and weakness on the right arm. He had central facial palsy. Brain CT scan showed a large mass. The mass was completely removed by surgery and the pathology was compatible with glioblastoma multiform standard chemotherapy and radiotherapy was started. Searching literature we found that cyclosporin suppress the gene of glioblastoma so we suggest the other prescribed medication as responsible trigger.

Conclusion. The occurrence of brain tumor one decade after immunosuppressive therapy in this child might be a late sequel or the coincidence. This might be an alarm for using immunosuppressive more cautiously.

P111

Breastfeeding and Urinary Tract Infection

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Introduction. Many studies have shown that breast milk oligosaccharides antibodies induce immunity and decrease the infection outside the gastrointestinal tract. Preventing urinary tract infections is important because it can be lead to end stage renal disease, renal failure and systemic hypertension. The aim of this study was to determine the impact of breastfeeding on the prevention of infant urinary tract infection.

Methods. This case control study was performed in 2005 to 2006 in two hospitals in Kermanshah on 40 members of the two groups of 6 to 12 months infants. Case group were hospitalized with urinary tract infection and control group with an acute illness

other than urinary tract infection. The groups were matched for age and sex. Infants with antibiotics consumption before admission, a renal or urinary tract abnormality, previous history of urinary tract infection and consumption of formula milk one to two times per day were excluded. Breast milk group was defined as infants with usage only breast milk and supplement drops. The infants with more than two servings a day of any milk except than breast milk were considered as non breast feeding infants group. Data were analyzed by descriptive statistics and chi square test.

Results. In case group 62.5% had exclusive breast feeding milk and 37.5% used formula or combination of formula and breast milk. In the control group 75% were exclusively breast fed and 25% used formula or combination of formula and breast milk. The difference between the two groups was not significant ($P = 0.23$).

Conclusion. Although breast milk intake in the group with urinary tract infection was lower than controls but this difference was not significant and protective effect of breastfeeding of urinary tract infection was not confirmed. This difference could be due to small sample size, exclusion criteria, and follow-up period. So, similar study with a larger sample size and longer follow-up time is advised.

P112

Causes of Nephrocalcinosis in Children Who Were Referred to Children's Hospital of Tabriz

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Introduction. Nephrocalcinosis is defined as calcium deposition in renal parenchyma. Etiology of nephrocalcinosis varies depending on geographic and genetic conditions, age of study population and methods of different studies. The aim of this study was evaluate the etiology of nephrocalcinosis in children's Hospital of Tabriz and compare the results with the literature.

Methods. In this descriptive study, profiles of 62 children with sonographically diagnosed nephrocalcinosis admitted in Children's Hospital of Tabriz during the last 10 years (1999 to 2009) were reviewed. Patients' demographics, clinical

and laboratory findings, underlying etiology of nephrocalcinosis and outcome were documented. Etiology of nephrocalcinosis was determined by biochemistry tests and imaging methods depending on disease.

Results. The mean age at presentation was 23.4 ± 36.2 months (1 month to 12 years). Thirty five (56.4%) patients were male and 27 patients (43.6%) were female. Patients were followed for 4.4 ± 2.9 years (6 months to 9.5 years). Failure to thrive, restlessness and vomiting were the most common causes of first presentation. Failure to thrive was found in 54.8%, polyuria in 48.4%, and polydipsia in 45.2% of patients. The most frequent underlying causes of nephrocalcinosis were distal renal tubular acidosis (30.6%), hypervitaminosis D (16%), medullary sponge kidney (8%), hyperoxaluria (8%), barter syndrome (6.5%), prematurity (4.8%), and hyperparathyroidism (4.8). The cause of nephrocalcinosis remained unknown in 6.5% of the cases. At the end of follow up period 48 patients (77.4%) had normal glomerular filtration rate and 13 patients (20.9%) had decreased GFR that 4 of them (with diagnosis of hyperoxalluria) progressed to end-stage renal disease. One patient (1.6%) with barter syndrome died.

Conclusion. Demographic features and etiologies of nephrocalcinosis in this study are similar to other studies. While in comparison with literature, rate of GFR reduction is higher at the end of follow up period.

P113

Cephalexin-Induced Hemorrhagic Cystitis in a Child.

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Introduction. Hemorrhagic cystitis (HC) is an infectious or noninfectious process that leads to gross hematuria originating from the urinary bladder mucosa.

Case Report. A previously healthy 2.5-year old boy referred to our center five hours after ingestion of 120 mL (6 g) of cephalexin suspension with abdominal pain, diarrhea, vomiting and gross hematuria. The results of a general physical examination were unremarkable except for mild

suprapubic tenderness. He was admitted to hospital and hydrated.

Laboratory tests on admission showed a normal CBC and electrolytes, normal PT and PTT, negative coombs test, many RBCs per high-power field (HPF) in urine, and normal urinary tract sonography. Within 24 hours, the urine was cleared, showing only 1 to 2 red blood cells per high power field and no changes in CBC, electrolytes or kidney function tests. His urine culture was negative.

Conclusion. Although there are reports of antibiotics-induced HC, the rarity of cephalosporines and cephalexin induced hemorrhagic cystitis encourage us to report this child.

P114

Childhood Vulvovaginitis

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Introduction. The aims of this study were evaluation of clinical findings, microscopic examination and culture of vaginal secretions, and response to treatment in prepubertal girls with vulvovaginitis.

Methods. over a period of about 6 years in a clinic for pediatric kidney and urinary tract disease 171 girls aged 2.5 to 8 years with urogenital symptoms were studied prospectively.

Results. dysuria, erythema, itching, soreness, and vaginal discharge were genital symptoms and signs. Pathogenic bacteria were isolated in 27% of cases and streptococcus pyogenes was a common agent. Nonpathogenic enteric flora was isolated in about 43%. There was no growth of bacteria in 30%. Poor hygiene was an associated risk factor in those with nonpathogenic positive culture ($P = 0.001$). There was statistically significant difference of purulent vaginal discharge between cases with vulvovaginal pathogenic infection and those with negative culture ($P < 0.001$). Also there was significant difference of observing WBC in vaginal smears between those with pathogenic bacteria and patients who had no growth of pathogens ($P < 0.001$). Candida and sexually transmitted agents were not found in any of the girls. Labial fusion was not an uncommon abnormality. Simple measures to improve hygiene and use of local estrogen were effective in the patients with nonpathogenic and nonspecific etiology.

Conclusion. Physical examination of genital area should be done in all girls with genitourinary symptoms. Antibiotic should be prescribed based on bacteriologic culture of vaginal secretion. Advice about hygiene practices and local estrogen is the most effective policy in children with noninfectious vulvovaginitis. Anti fungal creams usually have not any place in the initial management of childhood vulvovaginitis. The possibility of sexual abuse or foreign body in vagina must be considered particularly if the vulvovaginitis is persistent or recurrent after adequate treatment, but our data indicate they are not contributory factors.

P115

Circumcision for the Prevention of Urinary Tract Infection in Preschool Boys

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Introduction. Urinary tract infection (UTI) is common in childhood with serious sequelae. Among infants, boys are more likely to develop UTI. The aim of this study was to determine circumcision effects in decreasing UTI incidence and appropriate age of circumcision.

Methods. During a 7 year period in this prospective study 166 boys less than 6 years old with UTI allocated into 2 groups. They had not any urinary tract abnormalities.

In the first group 79 boys ranging in age from 2 months to 5.5 years (mean 11.3 ± 3.1 months) were circumcised after UTI treatment and then observed for 6 month period with taking urinalysis (U/A) and urine culture (U/C) 1 to 2 monthly. The second group as control subjects 87 boys aged 40 days to 5.5 years (mean 12.1 ± 3.4) after treatment of UTI were followed for 6 month period with taking U/A and U/C then circumcised and followed for another 6 month period. Incidence of UTI in the first group (circumcised) and second (uncircumcised period) was compared with use of chi-square test. For comparing the incidence of UTI in second group (6 months before and 6 months after circumcision) we use Mc Nemar test.

Results. there was significant difference ($P = 0.009$) in occurring of UTI in the first and second groups.

There was also significant difference ($P < 0.0001$) in incidence of UTI in 6 month period before and after the circumcision in second group patients.

Conclusions. The present study indicated that circumcision decreases the risk of UTI in boys, independent of the age. Therefore circumcision should be considered in newborn period and any patient with UTI or urinary tract abnormalities. Routinely performing cystourethrography in boys with first attack of UTI without urinary tract abnormalities (proven by history, physical examination and sonography) is questionable and needs further studies.

P116

Clear Cell Sarcoma of the Kidney With Tumor Extension Into the Inferior Vena Cava and Right Atrium

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Introduction. We present a six-year old female with clear cell sarcoma of the kidney (CCSK) who had extensive tumoral thrombosis from inferior vena cava through right atrium. She didn't have abdominal discomfort.

Case Report. Surgery was performed by pediatric and cardiovascular surgery teams. A sternotomy was made and patient was operated upon using cardiopulmonary bypass. When the right atrium was opened a large thrombus was seen. It had protruded into the right ventricle. After cavotomy the thrombus was extracted. Simultaneously a nephrectomy was performed.

Histological finding revealed clear cell sarcoma of the kidney. No postsurgical complications occurred. She is well one year after surgery.

Conclusion. Clear cell sarcoma is a rare renal tumor of childhood. At presentation, the most common clinical manifestation of CCSK is an abdominal mass. Our case had transvenous tumoral extension into the right atrium without abdominal discomfort.

P117

Clinical and Radiological Evaluation of Children With Fetal and Infantile Hydronephrosis

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Introduction. Hydronephrosis, a common problem before and after birth, is diagnosed by ultrasonography (US). Vesicoureteral reflux, obstruction of upper and lower urinary tract and neurogenic bladder are the most common causes of hydronephrosis in neonates and infants. Close follow-up and adequate treatment will prevent serious complications in these patients.

Methods. One hundred neonates and infants who had hydronephrosis were followed clinically for one year. Laboratory tests, US, VCUG, and radioisotope studies were done for all patients as needed. Patients were divided to fetal-diagnosed and infantile-diagnosed group regarding to the time of diagnosis. Classification of hydronephrosis severity was based on renal pelvic diameter (RPD): mild (RPD = 5 to 9 mm), moderate (RPD = 10 to 15 mm) and severe (RPD > 15 mm).

Results. Fifty four patients were male and 46 were female. At the beginning of the study, the mean age of the patients was 2.5 months in fetal-diagnosed hydronephrosis and 5 months in infantile-diagnosed hydronephrosis. 79% of the cases with fetal-diagnosed hydronephrosis were asymptomatic and all the patients of the infantile-diagnosed hydronephrosis had symptoms. Causes of fetal-diagnosed hydronephrosis were: VUR (45%), idiopathic (41%), UPJO (11%), physiologic (5.7%), and PUV (3.8%).

VUR was the most common cause of hydronephrosis in all patients. VUR was the most common cause of mild hydronephrosis and UPJO was the most common cause of severe hydronephrosis. Hydronephrosis resolved in 50% of all the cases (63% of the patients with fetal-diagnosed hydronephrosis and 36% of the patients with infantile-diagnosed hydronephrosis). Surgery was required in 100% of the cases with severe hydronephrosis, 30% of the cases with moderate hydronephrosis, and 6% of the cases with severe hydronephrosis.

Conclusion. Prenatal screening sonography had caused more detection of asymptomatic cases of fetal hydronephrosis in comparison to infantile-diagnosed hydronephrosis and fewer complications as a result.

P118

Clinical Correlation Between Findings of Renal Scintigraphy and Clinical / laboratory Findings in Children With Febrile UTI

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Introduction. Urinary tract infection (UTI) is one of the most common bacterial infections in children. Non-specific symptomatology in infants and young children makes the clinical differentiation between lower UTI and acute pyelonephritis (APN) difficult. Children with renal involvement are at risk of permanent renal damage that may lead to renal scarring, hypertension, complications during pregnancy, and end-stage renal disease. The aim of this study was to assess the correlation between APN findings of renal cortical scintigraphy and selected clinical / laboratory findings of febrile UTI in infants and children admitted at our center. **Methods.** A prospective study was conducted in 83 infants and young children aged 1 month to 8 years hospitalized with febrile UTI in nephrology ward of Abuzar children's hospital. Within the first 5 days after admission, Tc-99m DMSA renal scintigraphy, ultrasonography (US), voiding cystoureterography (VCUG), erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), hemoglobin (Hb), white blood cell count (WBC), and urine analyses were performed.

Results. Mean age was 24.3 months with 68 girls (82%). DMSA scintigraphy showed APN findings in 45 / 83 (54.2%) patients, with a mean age of 30.2 months, including 9 males (20%) and 36 females (80%). There were statistically significant correlations between the APN findings of DMSA scintigraphy and the fever duration, body temperature, leucocytosis, anemia, proteinuria, CRP levels, and ESR ($P < 0.05$). Vesicoureteral reflux was found in 20.5% of patients with no statistically significant correlations to the APN findings of DMSA scintigraphy.

Conclusion. Although initial DMSA renal scintigraphy is useful for determination and localization of kidney involvement during febrile UTI, some clinical, and paraclinical findings can

predict the scintigraphical findings of kidney involvement that need further evaluations.

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Clinical Urodynamic Evaluation of Urinary Disorders in Children With Cerebral Palsy Without Intellectual Deficit

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Introduction. Approximately one third of children with cerebral palsy are expected to present with dysfunctional voiding symptoms. Lower urinary tract symptoms and related urodynamic findings in this group of patients have been documented in a limited number of published studies. The aim of this study was evaluation of voiding disorders and uroflowmetry pattern in these patients.

Methods. This research was a clinical and paraclinical (urine analysis and culture, ultrasound and urodynamic) evaluation of urinary disorders in children (5 years old or more) with cerebral palsy without intellectual deficit who were referred to Ghaem and Sheikh Hospitals from December 2005 to October 2006. 40 children with cerebral palsy (18 were girl and 22 were boy) were examined for urine analysis and culture, after a history and physical examination. They underwent ultrasound examination of the kidney, ureter and bladder (for renal anomalies, bladder capacity and shape residual volume) and uroflowmetry.

Result. 21 (52.2%) out of 40 patients, had dysfunctional voiding symptoms, that enuresis (20%) and frequency (20%) were the most common symptoms. The bladder thickening (37.5%) was the most common finding in ultrasound study. 16 (40%) patients showed normal pattern of urodynamics and 24 (70%) of children had abnormal urodynamic studies. Detrusor sphincter dyssynergic pattern was presented in 10 (25%) as the most common urodynamic finding.

Conclusion. the present study concludes that voiding dysfunction in children with cerebral palsy is more common than general population, which is similar to results from other published studies. So, we suggest that a rational plan of management

of these patients depends on the evaluation of the lower urinary tract dysfunction with urine analysis and culture and urodynamic studies. These children benefit from earlier assessment and treatment.

P120

Combining of Radiocontrast Cystourethrography With Radionuclide Cystography for Detection of Elusive Vesicoureteral Reflux in Children

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Introduction. Vesicoureteral reflux (VUR) is an important risk factor in childhood urinary tract infection and its sequelae. Radiocontrast cystourethrography (standard VCUG) or radionuclide cystography (DRNC) is necessary for detection of VUR, although they may miss VUR. Some patients with strong clinical and sonographic suspicion of VUR may show normal cystogram. Combination of two studies in these patients may detect VUR.

Methods. Twenty three patients with high suspicion to VUR but with normal cystogram (14 standard VCUG, 9DRNC) were subjected to cystography different from the previous one.

Results. VUR was showed in 6 and 3 cases (totally 9 cases) respectively.

Conclusion. combining standard VCUG with DRNC in selected patients may enhance the predictive value for diagnosis of VUR higher than single tests alone.

P121

Comparison Between Average Kidney Sizes in Malnourished Children and Healthy Kids

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Introduction. Malnutrition is a widespread disorder in children, and ultrasonography is a method of choice to estimate kidney dimensions. Previously,

kidney size had been studied in healthy newborns in paediatric patients. However kidney size was not investigated sufficiently in malnourished children.

Methods. The study group consisted of 80 children 6 month to 5 years range with malnutrition presented to Ali-ebne -abitaleb hospital and 80 healthy children that presented to radiology ward of this hospital. Our sampling method was random sampling. Anthropometric measurement consisted of weight, height, mid-arm circumference and skin fold thickness. Ultrasonographic measurements of kidney size consisted of length, width, depth, pranchymal depth and volume.

Result. malnourished children had significantly lower kidney length and renal volume but higher relative kidney volume compared with controls ($P < 0.05$). Strongest positive correlation was found between body height and kidney length, depth and volume in malnourished group. Regression analysis revealed that height and age of malnourished children had a significant effect on kidney volume, however only body height had an effect on kidney length.

Conclusion. Malnourished children had smaller kidney size and body height was the main determinant of their kidney length and volume.

P122

Comparison Between Diuretic Urography (IVP) and Diuretic Isotope Renal Scan (DTPA) for Diagnosis of Ureteropelvic Junction Obstruction (UPJO) in Children

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Introduction. Ureteropelvic Junction obstruction (UPJO) is one of the most common causes of urinary tract obstruction in children. Several methods are used to diagnose upper urinary tract obstruction, including renal ultrasonography (US) intravenous pyelogram (IVP), diuretic renal scan and antegrade or retrograde pyelography. The aim of the present study was comparison of IVP mixed with furosemide and diuretic renal scan in diagnosis of UPJO.

Methods. This study was a prospective, longitudinal investigation that was done in 40 children (28 boys,

12 girls) suspected to UPJO presented with urinary tract infection (UTI), prenatal hydronephrosis, abdominal or flank pain, abdominal mass, and hematuria. Renal ultrasound was used as an initial screening tool for detection of urinary tract abnormality. Vesicoureteral reflux (VUR) was ruled out by voiding cystourethrography (VCUG). Serum creatinine, blood urea nitrogen, urinalysis, and urine culture was screened for all cases.

IVP with furosemide and Tc-99m diethylene triamine pentaacetic acid (DTPA) diuretic renal scan were performed as soon as possible.

Results. During a two years period, 40 patients were diagnosed as UPJO: their ages ranged from 40 days to 13 years (Mean = 9.2 years). There was significant higher proportion of UPJO in the boys (70%) and in left side (65%). The sensitivity of renal scan in diagnosis of UPJO was 100% and for IVP was 95% respectively. There was no significant difference between two procedures for diagnosis of UPJO ($P > 0.05$).

Conclusion. Diuretic renal scan seems to be the most useful procedure for diagnosis of UPJO in relative poorly functioning large hydronephrotic kidneys, whereas IVP could not be used in patients with renal impairment and those allergic to radiocontrast material and the neonatal period. There was no significant difference between two procedures for diagnosis of UPJO in kidneys with normal or near normal function. In many places such as small towns with less facilities there is no advanced isotope imaging technology therefore use of IVP with diuretic maybe an acceptable procedure for diagnosis of UPJO.

P123

Comparison of 99m-Tc-DMSA and 99m-Tc-EC for Differential Renal Function (DRF) Calculation.

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Introduction. For renal scintigraphy, different radiopharmaceuticals like 99mTc-DMSA and 99mTc-EC can be used. Although these methods are accurate, some differences can be observed among them. These radiopharmaceuticals have

different levels of reproducibility and repeatability. This study aimed to evaluate the level of inter and intra observer variability in 99mTc-DMSA scintigraphy. We also compared the renal function, measured with 99mTc-EC, with the one measured using 99mTc-DMSA scintigraphy to determine if 99mTc-EC can be used instead of 99mTc-DMSA in this regard.

Methods. The sample volume consisted of 81 patients underwent both 99mTc-DMSA and 99mTc-EC in Imam Reza Health Center in 2008. These scans were interpreted by two observers. One of the observers interpreted the scans after one month for the second time. The data were analyzed with SPSS.

Results. There was a close correlation between these two methods with respect to DRF ($P = 0.51$). Estimating intra observer variability showed close correlation between DMSA ($r = 0.997$) and EC ($r = 0.996$). The evaluation of inter observer variability also revealed high correlation between DMSA ($r = 0.995$) and EC ($r = 0.996$).

Conclusion. Since the comparison between these two methods in measuring renal function showed the same results, 99mTc-EC can be used as a substitute for 99mTc-DMSA. In addition, Tc-99m EC scintigraphy can be a reliable single-modality study to evaluate renal cortical defects, perfusion, and drainage of the urinary system and indirect evidence of vesicoureteric reflux with the added advantage of low radiation exposure to the patient. Also good reproducibility and repeatability were reported according to this study.

P124

Comparison of Nalidixic Acid With Trimethoprim – sulfamethoxazole in Prophylaxis of Recurring Urinary Tract Infection in Children

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Introduction. Urinary tract infection (UTI) is one of the most common lifelong bacterial diseases. UTI can lead to serious complications such as renal scar, hypertension, and chronic renal failure. Delay in treatment, recurrence of

infection, obstructive anomalies of the urinary tract, neurogenic bladder, and vesicoureteral reflux are risk factors of occurrence and progression of renal scarring, so prolonged prophylactic antibiotic such as co-trimoxazol, nitrofurantoin, nalidixic acid, ciprofloxacin, and cephalexin is required in cases that are prone to occurrence and progression of renal scarring.

Methods. One hundred and two children, 1 to 15 years old, with urinary tract infection, presenting to the nephrology clinic or ward of Dr. Sheikh and Ghaem Hospitals from 1386 to 1387 that needed prophylactic antibiotic for prophylaxis of UTI were enrolled in the study. Following treatment of the acute infection, children were randomly treated with prophylactic antibiotic therapy of nocturnal co-trimoxazol or nalidixic acid for 6 months. During the study, complete urinary analysis and culture were performed every other month for diagnosis of urinary infection recurrence.

Results. Of all 102 patients, 50 cases received nalidixic acid and 52 cases received co-trimoxazol. These two groups had no significant difference regarding age and gender ($P = 0.75$ and $P = 0.25$, respectively). Abnormal findings in ultrasonography and the type of the cultured microbe (*escherichia coli* and non-*escherichia coli*) were also similar in both groups ($P = 0.49$ and $P = 0.23$, respectively). The most common urinary germ was *escherichia coli* (87.3%). During 6 months of follow-up, the recurrence was in 24 cases (48%) of the children undergoing prophylaxis therapy with nalidixic acid. This was significantly more than the group that received co-trimoxazol (11 cases, 21%; $P = 0.006$).

Conclusion. As prophylaxis with co-trimoxazol is more effective than nalidixic acid for prevention of recurrence of urinary infection in the children with urinary infection, its use is recommended for prophylaxis of urinary infection. It is recommended that the study be repeated with larger sample size and during longer periods and the same study be repeated periodically to monitor antibacterial resistance.

P125

Comparison of Sound Levels in Nephrology and Renal Transplantation Wards With Intensive Care and Emergency Wards

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Introduction. Technology development has increased sound level beyond standards in hospitals. Such pollution undoubtedly has negative effects on staff health and quality of care accordingly. Our goal with this study was to investigate noise levels in nephrology and renal transplantation wards and comparison with intensive care units (as most noiseless places) and emergency wards (as noisiest places).

Methods. This study was performed on measuring of sound level of 10 wards (nephrology, all intensive care units, renal transplantation, and emergency wards) of Imam Reza Hospital in a 30-minute interval of AM working shift by an EXTECH (M-407727) Device at one meter distance from nursing stations getting maximum sound level (Lmax) and Average Sound Level (Leq).

Results. Lmax in most wards were between 85 to 86 dB. Leq in all wards were between 60.2 dB. Average Leq in emergency wards was 62.2 dB without any justification. Most Leq was in nephrology ward (63.7 dB). Leq in renal transplantation ward was 56.6 dB. In most wards peak of noise was between 9:30 to 11 am. Leq in all wards exceeded the standards levels.

Conclusion. The average of sound levels in our wards remarkably exceeds the standards levels. Leq in nephrology ward was more than emergency wards.

P126

Congenital Mesoblastic Nephroma and Severe Hypercalcemia

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Introduction. Life-threatening hypercalcemia is rare in infants and young children. Pharmacological treatment of severe hypercalcemia is complicated by lack of experience with some effective medications such as bisphosphonates in newborns. The aim of this report is to define new approach to neoplasm induced neonatal hypercalcemia.

Case Report. We report an infant with severe hypercalcemia due to congenital mesoblastic nephroma. Hypercalcemia was corrected before nephrectomy by pamidronate. According to our knowledge this is a rare case with severe neoplasm induced hypercalcemia among neonates who treated by bisphosphonates.

Conclusion. Intravenous pamidronate appears to be a safe and effective treatment for severe hypercalcemia among neonates and infants with life-threatening paraneoplastic hypercalcemia. This could stabilize the patients before surgery especially those who do not respond adequately to traditional treatments or when urgent surgery is impossible.

P127

Congenital Nephrotic Syndrome, Aspects and Difficulties

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Introduction. Congenital nephrotic syndrome (CNS) is defined as proteinuria manifested in the first 3 months of life. Without aggressive nutritional and protein substitution CNS is fatal.

Methods. During 4 years, 6 cases documents collected from 5 families and 2 out of these 6 cases who accepted to use Ibuprofen and / or enalapril as anti-proteinuric agents were followed and their physical examination and laboratory test detected.

Results. Incidence of CNS in our province is 1 of 50000 live births. Without medical therapy including albumin infusion or antiproteinuric agents all cases die before 4th months due to sepsis and respiratory distress, with using ibuprofen and / or enalapril serum albumin remains above 2 g/dL without albumin infusion, in second year ESRD develops and these drugs lead to acidosis, aggravating uremia and respiratory distress without using renal replacement therapy. Motor delay is prominent in spite of receiving thyroxin before 8th weeks.

Conclusion. CNS is rare in our area; our cases responded to anti-proteinuric agents but these effects last a short time in presence of severe renal pathologic changes these drugs lead to uremia and acidosis in second year. Preemptive peritoneal dialysis and reinstatement of these drugs solve this problem without any need for nephrectomy

in our experience.

P128

Correlation Between Nocturia and Attention Deficit / Hyperactivity Disorder in Children With Nocturia

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Introduction. Attention Deficit Hyperactivity Disorder is the most common childhood neuralgic behavioral disorder which affects 5 to 10% of children in school age. It seems that the disorder is more common among children with nocturia. The aim of this study was to investigate ADHD in children with nocturia and compare it with a control group in patients referred to Amir Kabir hospital of Arak.

Methods. This case control study was performed on 100 children with nocturia and 100 children without nocturia in the age period of 5 to 16 year old. In all patients, questionnaire based on DSM IV (ADHD) as well as an information list about age, gender, history of maternal disease during pregnancy, birth weight and head trauma, was filled and the patients were interviewed. The data were analyzed using qualitative variables and chi-square test.

Results. Among 100 patients with nocturia, 16 cases (16%) showed attention deficit while this figure was 5 cases (5%) in the control group which showed a significant difference. ($P = 0.01$). Also in the patients group; 25 children (25%) were affected by hyperactivity – impulsive behavior while only 16 (16%) children were affected by this behavior in the control group which was important but didn't show any significant difference ($P = 0.08$).

Conclusion. ADHD in children with enuresis is significantly more common than non-neurotic children and makes psychological consult mandatory in children with enuresis and absolute attention to drug prescription in these patients is necessary.

P129

Decreases of Urinary Oxalate Levels by Oxalate-Degrading Lactobacillus in Kidney Stone Disease

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Introduction. Excessive use of diets with high level of oxalate causes an increase in urinary oxalate and leads to the formation of oxalate calcium stones. Recent surveys have shown that the Oxalate-degrading bacteria which are present in the GI tract are among the main factors in reducing oxalate calcium deposits. Their action is mediated via Oxalyl-COA decarboxylase, Formyl-COA transferase ability to degrade oxalate to formate and CO₂. The aim of this research was evaluation and selection of an oxalate-degrading Lactobacillus in calcium oxalate stone patients

Methods. This cross-sectional was carried out on stool and Urine samples of 100 normal individuals and 100 patients with calcium oxalate stone disease in Motahari hospital of Jahrom. The Oxalate-degrading bacteria after being incubated and cultured in specific medium were identified, using Biochemical tests and 16s rRNA molecular method identification. Then presence of *oxc*, *frc* genes in bacteria was evaluated.

Results. Lactobacillus in 80 out of 100 normal individuals (80%) and 48 out of 100 patients with calcium oxalate stone disease (48%) was separated. 60 (46.9%) case of Lactobacillus possessed *oxc* gene and 14 (10.9%) case had *frc* gene. The results showed that the level of Urinary oxalate was significantly higher in patients with kidney stone in comparison with healthy individuals ($P = 0.00$). In addition, oxalate-degrading Lactobacillus colonization was significantly higher in healthy individuals in comparison with patients disease ($P = 0.00$).

Conclusion. Reduction in the oxalate-degrading Lactobacillus colonization could cause the increasing of urine oxalate and oxalate calcium kidney stone. Therefore, using of these bacilli can be recommended for reducing of kidney stone affliction.

P130

Diagnostic Evaluation of Procalcitonin in Children With Acute Pyelonephritis

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Introduction. Urinary tract infection is the common

term for a heterogenous group of conditions in which there is growth of bacteria in the urinary tract.

Methods. In order to establish the most reliable marker for distinguishing urinary tract infection (UTI) with or without renal parenchymal involvement, we recorded the clinical features and admission leukocyte count, erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and serum procalcitonin (PCT) in 80 children aged 2 month to 10 years old admitted or referred with a first episode of UTI from December 2006 till January 2009.

Results. Fifty children with mean age of 14.89 ± 3.50 with 30 children with mean age of 5.20 ± 3.07 were compared. ESR, leukocyte count, and PCT but not CRP were significantly higher in patients with upper UTI ($P < 0.001$). PCT had the best performance (0.5) with sensitivity, specificity, positive and negative predictive value of 63%, 83.3%, 87.8% and 46.1%; respectively. PCT cutoff value more than 2 also had sensitivity, specificity, and positive and negative predictive value of 50%, 96.6%, 96.2%, and 53.7%; respectively.

Conclusion. PCT was more sensitive and specific for the diagnosis of upper versus lower UTI than CRP. Serum PCT is a better marker than CRP for early prediction of pyelonephritis in children with a first episode of UTI.

P131

Diagnostic Value of Dialysate White Cell Count in Pediatric Patients With Peritonitis Complicating Peritoneal Dialysis

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Introduction. Early prediction of peritonitis complicating peritoneal dialysis is the best way to manage peritonitis. The aim of the present study was to determine the prognostic value of dialysate white cell count in pediatric patients with peritonitis complicating peritoneal dialysis.

Methods. The records of children, younger than 15 years old between 1998 and 2009 referred to Ali Asghar hospital because of peritonitis complicating peritoneal dialysis, were collected. We reviewed

retrospectively 60 episodes of peritonitis. For each episode of peritonitis, we recorded the peritoneal dialysate white blood cell count on day 3 and smear and culture.

Results. in this study, treatment success occurred in 68.3% episodes. Of the remaining 31.7% episodes with treatment failure, 15.8% episodes resulted in mortality, and 57.9% episodes required Tenckhoff catheter removal and 26.3% episodes resulted in both. The peritoneal dialysate white count on day 3 was significantly higher in the treatment failure group (defined as catheter loss or peritonitis-related death) than in the treatment success group and was significantly lower in the treatment failure group than in the treatment success group. (P less than 0.05 was considered significant). On the basis of examination of the ROC curve, the dialysate white count on day 3 optimizing sensitivity and specificity for the prediction of peritonitis complicating peritoneal dialysis was approximately 1400 / mm³ (OR= 9.5; 95% CI, 4.1 to 19.2).

For a peritoneal dialysate white count 1400 / mm³ on day 3, the sensitivity was 81.3% and the specificity was 77.2%. The cut point of 1400 / mm³ had 56.5% positive predictive value, and 91% negative predictive value.

Conclusion. This study showed the prognostic value of peritoneal dialysate white cell count on day 3 to predict outcomes of peritonitis complicating PD in pediatric.

P132

Differences and Similarities Between Monosymptomatic and Non-Mono Symptomatic Nocturnal Enuresis: A Clinical Evaluation

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Introduction. 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 referred to the nephrology clinic enrolled study. Urinalysis, urine culture and ultrasonography were done for all.

Voiding ureterocystography was used to evaluate anatomy of lower urinary tract and urodynamic studies were done to assess bladder function.

Results. 111 children enrolled study (60 boys and 51 girls). 43 (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 ($P < 0.05$). Increased bladder wall thickness and irregularity of bladder wall were the most common findings ($P > 0.05$). One patient with MNE and 9 with NMNE + daytime incontinence had VUR ($P = 0.016$). Evidences of bladder dysfunction were noted in about half of patients who underwent UDS, with higher prevalence in cases with NMNE + daytime urinary incontinence ($P > 0.05$).

Conclusion. bowel symptoms and urological abnormalities of LUT are significantly more prevalent in cases with NMNE who have daytime incontinence. We recommend VCUG in patients with NMNE who have daytime incontinence.

P133

Different Patterns of BK Polyomavirus Reactivation in Renal Transplant Recipients

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Introduction. BK polyomavirus (BKV) is common infection of childhood and it persists in kidney epithelium. BKV reactivation characterized by active viruria occurs in 23% to 57% of renal allograft recipients. BKV-associated nephropathy occurs in as many as 8% of renal allograft recipients. The aim of this study was determining reactivation patterns for BK virus in renal transplant recipients.

Methods. One hundred and thirty kidney transplant recipients were studied who were referred to Emam Khomini hospital of Urmia. We detected BKV viruria by polymerase chain reaction (PCR). We studied relationship between presence of BK virus in urine with age, sex, time period after transplantation, immunosuppressive regime, dialysis duration before transplantation, diabetes, and acute rejection.

Results. Among 130 cases of kidney transplant

recipients, BKV viruria was found in 24 (18%) patients. The median time to detect viruria was 30 months post-transplant (range, 2 to 94 months) ($P = 0.01$). There was no significant difference between the BK virus considering age, sex, dialysis duration, diabetes, and acute rejection.

Conclusion. Our results indicate that one fifth of our transplant recipients excrete BK virus in their urine. These cases are at risk of developing BK associated nephropathy. Detection of polyomavirus BKV-DNA in urine is important to make early diagnosis of BK virus infection. This provides an important basis for the prevention of BK virus associated nephropathy.

P134

Differential Renal Function Using ^{99m}Tc-DMSA in Patients With Hydronephrosis: Diuretic Effect

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Introduction. It has been suggested that calculation of differential renal function (DRF) using ^{99m}Tc-DMSA may lead to overestimation of the function of an obstructed kidney. The aim of this study was to evaluate the effect of diuretic administration on the determination of DRF using ^{99m}Tc-DMSA scintigraphy in patients with dilated pelvis.

Methods. Thirty three patients, aged from 2 months to 66 years (19.27 ± 20.83 years, 22 males, 11 females), in whom unilateral hydronephrosis had been documented by ultrasonography and diuretic renography were included in the study. ^{99m}Tc-DMSA scintigraphy was performed in all patients 3 hours after tracer injection. Immediately after the standard study, furosemide was injected in all patients, and 30 min later anterior and posterior images were obtained. DRF was calculated for each patient and from each ^{99m}Tc-DMSA study by using the geometric mean method.

Results. We did not observe any significant difference in all patients between the DRF values obtained before and after diuretic administration (the DRF value of the affected kidney was thus taken into account) ($P = 0.35$). When we compared DRF values obtained from standard and from diuretic DMSA studies, the mean of the differences

was only 0.18 and the SD was only 1.09%. In 17 patients (group1), diuresis renography revealed an obstructive curve pattern while 16 patients (group 2) had a nonobstructive dilated renogram curve pattern. There were again no significant differences between DRF values obtained before and after diuretic injection in each group.

Conclusion. In view of our study, diuretic administration seems to be an unnecessary intervention because it has no effect on the accuracy of DRF measurements using ^{99m}Tc-DMSA scintigraphy in patients with a dilated collecting system whether it is obstructed or not.

P135

Do Prostaglandins Modulate Renal Haemodynamic Effects of Endothelin-1 in Conscious Lambs?

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Introduction. To test the hypothesis that vasodilatory prostaglandins buffer the renal vasoconstrictor effects of endothelin-1 (ET-1) early in life.

Methods. Renal haemodynamic responses to ET-1 were measured in 2 groups of conscious, chronically instrumented lambs at 1 to 2 weeks of age (group I, n = 11) and 6 weeks of age (group II, n = 10). Lambs were pretreated with vehicle or 1 mg/kg indomethacin, a nonselective cyclooxygenase inhibitor, and renal haemodynamic effects were measured continuously for 1 min before (control) and 5 min after intra-arterial injection of 250 ng/kg ET-1. In group II lambs

Results. There was a marked decrease in renal blood flow (RBF) and renal vascular conductance (RVC) elicited by ET-1 administration, as we have previously described. This response was not altered by vehicle or indomethacin pretreatment. In group I lambs, there was an initial increase but no decrease in RBF and RVC elicited by ET-1 administration, as we have previously described, and this response was also not altered by either vehicle or indomethacin.

Conclusion. These results suggest that endogenously produced prostaglandins do not appear to modulate the renal haemodynamic effects of ET-1 in conscious lambs during postnatal maturation.

P136

Early Graft Functions and Graft Survival Following Renal Transplantation in Children

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Introduction. The outcome of renal transplantation in children has improved over the last several decades. The aim of this study was to report our experience of pediatric renal transplantation in Imam Reza Hospital Kidney Transplantation Unit (Mashhad University of Medical Sciences) during 2002 to 2010.

Methods. A total of 60 living-related donor (LRD) and 39 deceased-related donor (DRD) transplants were performed during the period. The parameters studied included initial graft function and graft survival. For initial graft function, we defined four groups of recipients: immediate graft function (IGF), slow graft function (SGF), delayed graft function (DGF) and primary nonfunctioning (PNF). Overall 1 and 5-year rates were calculated using the Kaplan–Meier method. The log-Rank test was used to determine the statistical differences of graft survival between different variables.

Results. Of the 60 recipients who received kidney from LRD donors, IGF was seen in 54 (90%), SGF in 3(5%), DGF in 1 (1.7%), PNF in 2 (3.3%) patients, and of the 39 DRD recipients. IGF was seen in 34 (89.5%), SGF in 1 (2.6%), DGF in 2 (5.3%), and PNF in 1 (2.6%) patients. One- and 5-year graft survival for LRD were 89% and 85% and for DRD were 89% and 85% respectively ($P = 0.534$). Although graft survival was slightly better in recipients who received kidney from LRD donors, there were no significant differences in 1, and 5 years graft survival between two groups.

Conclusions. We conclude that outcome of LRD and LURD is comparable in terms of initial graft function and 1- and 5-year graft survival following renal transplantation in children.

P137

Effect of Meatal Stenosis on Urinary Tract by Using Ultrasonography

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Introduction. In our country meatal stenosis due to early circumcision is common. Long lasting meatal stenosis may cause bladder outlet obstruction. The aim of this study is to evaluate the effect of meatal stenosis on lower and upper urinary tract using ultrasonography.

Methods. From 2008 to 2011, forty two boys (age 2 to 8 years) suffered from meatal stenosis were enrolled in this study. Diagnosis of meatal stenosis and its severity were confirmed by Nelaton catheter in all cases. Documented subjects were referred for urinary tract ultrasonography. Hydronephrosis, hydroureter, bladder wall thickness in full and empty bladder, bladder volume and residual urine were evaluated by ultrasonography.

Results. Meatal stenosis was confirmed in 42 subjects. Thirty seven subjects (88%) had normal upper urinary tract ultrasonography. Five cases (12%) showed bilateral hydronephrosis. In 35 subjects (83%) bladder wall thickness was increased and 30 cases (60%) had high residual urine (more than 20% of bladder volume).

Conclusion. Long term meatal stenosis could induce bladder wall thickness and increase residual urine. Early correction of meatal stenosis can prevent these urinary complications.

P138

Effects of Aminophylline in Preventing Renal Failure in Premature Neonates With Asphyxia in Isfahan, Iran

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Introduction. Considering the relation between prematurity and asphyxia and also renal failure in neonates, the aim of this study was to determine the effect of aminophylline on urine and serum indices of renal failure and consequently its prevention, in Premature Infants with asphyxia in Isfahan-Iran.

Methods. In this clinical trial study, preterm neonates diagnosed with perinatal asphyxia in neonatal ward of Shahid Beheshti hospital,

during 2009, were enrolled. The participants were randomized in two intervention and placebo groups. The intervention was aminophylline 5 mg/d. They were randomized to receive a single dose of aminophylline (5 mg/kg) or placebo of 5% dextrose water for injection (5 cc/kg) during the first hour of life.

Renal function was assessed by GFR, β 2-microglobulin (β 2M), N-acetyl-glucosaminidase (NAG) serum creatinine and electrolytes level measurement, during the 1st, 4th, and 7th day of life, in two studied groups. The results were compared between the two groups before and after intervention.

Results. 22 patients were studied in two intervention and placebo groups. Mean of urine output was significantly higher in neonates who received aminophylline ($P < 0.05$). Mean of β 2M and NAG 24 hours after intervention was not significantly different in the two groups of asphyxiated preterm neonates ($P > 0.05$). GFR was significantly higher in neonates who received aminophylline on 4th day of life ($P < 0.05$) and it had trend to be significantly high on 7th day ($P = 0.05$) and was not significantly high on 1st day ($P > 0.05$) compared with control group. The most common pathophysiology of renal failure was prerenal.

Conclusion. Aminophylline could prevent renal dysfunction in preterm neonates with asphyxia. Neonates who received aminophyllin on the first day of life indicated a significant improvement in GFR and urine output.

P139

Efficacy of Potassium Citrate Solution in Children With Renal Stone

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Introduction. Diagnosis and treatment of renal stone are very important especially according to their symptoms and risk of complication in children. So, this study was done for evaluation of potassium citrate solution efficacy in children with renal stone.

Methods. This study was done on 150 children referred to nephrologic department or clinic with renal stone without urinary obstruction (2002 to

2010). All children were treated with potassium citrate solution till urine PH reached > 6.5 to 7. Urinary ultrasonography was done every 3 month and response to treatment was evaluated according to the stone size, age and duration of treatment. Then the dates were evaluated and P less than 0.05 was determined to be significant.

Results. The age of children was 25 days to 15 years. Male to female ratio was 1/3. The rate of complete response to drug was 78.7% during one year. Mean of follow up was 15.9 ± 14.5 month and the risk of relapse was 12.4%. There wasn't any significant difference between response and stone size, age and children sex ($P > 0.05$).

Conclusion. Potassium citrate has been found to be significantly effective in treatment of renal stone, so we suggest using this drug for treatment of renal stone in all children without urinary obstruction.

P140

En Bloc Kidney Transplantation From Pediatric Cadaveric Donors to Adult Recipients

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Introduction. The shortage of cadaveric donors for kidney transplantation has led to the expansion of the criteria used for donor selection, such as the use of pediatric cadaveric donors. In this study we reviewed our results of en bloc kidney transplantation of pediatric cadaveric donors to adults.

Methods. From May 2001 to May 2009, 420 cadaveric kidney transplants have been performed in our hospitals. Seven of these were en bloc kidney transplantations in adult recipients from *marginal* pediatric donors (age < 5 years, donor weight < 15 kg, high creatinine clearance, or kidney length < 8 cm). We reviewed their records. Follow-up (range, 3 to 24 months) included ultrasonography, dimercaptosuccinic acid renal scintigraphy, and magnetic resonance imaging.

Results. Serum levels of creatinine ranged between 0.8 mg/dL to 1.9 mg/dL during the follow-up period. One patient died of myocardial infarction 3 months postoperatively. One-year graft and patient

survivals were both 85.7%. Complications included acute tubular necrosis in 1 patient (managed by conservative therapy and dialysis for 2 weeks), renal vein thrombosis in 1 (treated by anticoagulation), and subcutaneous hematoma in 1. There were no urologic complications. Median size of the grafts was 7.2 cm preoperatively that reached 9.6 cm, 3 months postoperatively ($P = 0.018$). Twelve months following operation, the median size of the grafts reached 11 cm ($P = 0.045$).

Conclusion. En bloc pediatric kidney transplantation is a safe and suitable alternative for adult recipients. One-year graft and patient survivals are acceptable and complication rate is low.

P141

Etiology of Pediatric Chronic Kidney Diseases in Children's Hospital of Tabriz

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Introduction. Identification of CKD (Chronic Kidney Disease) etiology is the first step for its prevention. Etiology of CKD in children varies from one geographic area to another due to environmental, genetic, socio-economic and cultural differences. The aim of this study was to evaluate the etiology of pediatric chronic kidney disease (CKD) in a tertiary care hospital in north-west of Iran.

Methods. Medical records of admitted children with CKD in Children's Hospital of Tabriz from 1999 to 2009 were studied retrospectively. CKD was defined as GFR less than 60 ml/min/1.73 m² for more than 3 month. The etiology of CKD was determined by clinical, biological, radiological, and histopathological examination.

Results. During 10 years 115 children including 61 boys (%53) and 54 girls (%47) were studied. The mean age of patients was 8.1 ± 3.53 years. Twenty patients (%17.4) had positive family history as having a sibling with CKD. Urological abnormalities were the most common cause of CKD (36.5%) followed by acquired glomerular diseases (23.5%), hereditary nephropathies (21.7%), unknown etiology (9.5%), and systemic diseases (6%). The most common urologic anomaly was

vesicoureteral reflux (VUR) that accounted for 24.3% of total etiologies followed by obstructive uropathies. Patients with VUR had a mean age of 9.4 ± 1.5 years including 12 patients (10.4%) with primary VUR and 16 patients (13.9%) with secondary VUR due to neurogenic bladder. Focal segmental glomerulosclerosis was the most frequent glomerular disease and was responsible for 13.9% of patients. Nephronophthisis, cystinosis, infantile polycystic disease and congenital nephrotic syndrome were the most frequent hereditary nephropathies in a descending order. Frequency of parental consanguinity in patients with hereditary nephropathy was significantly higher than other patients ($P = 0.001$).

Conclusion. High frequency of VUR in present study compared with developed countries necessitates more efforts for improving the management and follow up of urinary tract infections.

P142

Evaluation of Hypernatremia and Related Factors Among Newborns Admitted at Emam-Reza Hospital

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Introduction. Hypernatremia causes serious disorders among newborns and is accounted as a risk factor for neonatal mortality. The aim of this study was to determine the frequency rate, severity, related factors, and mortality rate associated with hypernatremia among newborns from either inpatient or outpatient admitted newborns.

Methods. This cross-sectional study was performed on newborns admitted at NICU of Emamreza hospital due to high serum sodium concentration ($\text{Na} > 150$ meq/L). Hypernatremia was defined as mild (150 to 160 meq/L), moderate (160 to 170 meq/L), and severe (> 170 meq/L).

Results. 731 infants were admitted in a period of one year. Hypernatremia was diagnosed in 44 cases (6.1%) whereas mild, moderate and severe forms were found in 33, 8, and 3 of those, respectively. Hypernatremia occurred mostly in summer (50%) followed by spring (27.2%), autumn (11.4%), and winter (11.4%). Excessive clothing (43.3%), intake of traditional supplements for hyperbilirubinemia

(15.86%), and decreasing breast feeding due to asphyxia or sepsis (11.35%) were the major reasons for hypernatremia occurrence among our infants. Mortality rate was reported 9.1% in the current study.

Conclusion. Hypernatremia mostly occurs as mild form and takes place in warm season due to excessive clothing, inadequate breast feeding and intake of traditional supplements.

P143

Evaluation of the Effect of Vincristine on Multi-drug Resistant Idiopathic Nephrotic Syndrome

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Introduction. Idiopathic nephrotic syndrome is the most common type of childhood nephrotic syndrome. Although most of the children with idiopathic nephrotic syndrome are steroid responsive a minor proportion of them are resistant to steroid and other immunosuppressive agents. Among this later group a majority may have focal segmental glomerulosclerosis (FSGS). Regarding the limited number of studies on the effect of vincristine on multi-drug resistant nephrotic syndrome and lack of unique findings this study was performed.

Methods. Medical records of all children with multi-drug resistant nephrotic syndrome were picked up from the nephrology follow up clinics and this descriptive and prospective study was performed on them. After description of the protocol for the parents and obtaining written consent, 10 children were involved in this study. They were resistant to prednisone, cyclophosphamide and cyclosporine and in all of them the pathology was FSGS. During a 2 month period 8 courses of weekly vincristine 1.5 mg/m² per week were given intravenously and clinical and laboratory response were evaluated at the end of treatment. Their previous medications including ACE inhibitors and lipid lowering agents were continued during the trial. SPSS soft ware was used for statistical analysis.

Results. Ten children all with the pathologic diagnosis of FSGS and the age range of 2 to 7 years and mean age of 5 ± 1.4 years all of them male were enrolled in this study. At the end of

treatment no significant changes in weight, degree of edema, the level of serum albumin, lipid profile, and urine protein were observed. No adverse effect of vincristine was encountered.

Conclusion. Short course vincristine is not effective in the treatment of multi-drug resistant nephrotic syndrome.

P144

Fanconi Syndrome and Hepatocellular Carcinoma

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Introduction. Fanconi Syndrome is a diseases of the proximal renal tubules of the kidney in which glucose, amino acids, uric acid, phosphate and bicarbonate pass into the urine instead of being absorbed. To present two known cases of fanconi syndrome complicated with Hepatocellular Carcinoma (HCC).

Case Report. The first case is a 17 years old girl, a known case of Fanconi syndrome and ascites. She had a large mass lesion measuring 48x45x44 mm with cystic component in the right liver lobe. An 18 year-old girl was the second case suffering from fanconi syndrome since 15 years ago. An ultrasonography study of her liver showed coarse echo with a mass measuring 68x38x68 mm in the right liver lobe. Liver needle biopsy of these patients was compatible with HCC.

Conclusion. Reviews of literature and follow up of our patients with fanconi syndrome didn't disclose any cases with HCC. It is uncertain whether the patients with fanconi syndrome are at risk of HCC or not. So it seems more investigation is needed to know the relationship between these disorders.

P145

Genetics and Chronic Renal Diseases

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Introduction. significant developments of molecular genetics in recent years have revealed new aspects of underlying causes of renal diseases which may

be important in diagnosis, treatment and predicting their prognosis. This article reviews most recent findings in medical literature in the past five years about role of genetics in renal diseases especially in children. The aim of study was reviewing the most recent findings about role of genetics in renal diseases.

Methods. keywords of “genetics” and “renal disease” were searched in “PubMed” database with date limit of 2006 to 2011. Relevant articles were reviewed and their findings and results were summarized.

Results. some renal diseases are associated with only single gene such as: congenital nephritic syndrome of Finnish type 1 (NPHS1), steroid resistant nephrotic syndrome type 2 (NPHS2), steroid resistant nephrotic syndrome type 3 (PLCE1). In cystic renal disease contribution of other genes is now clear: PKD1 (ADPKD), PKHD1 (ARPKD), UMOD (medullary cystic disease), and BBS1 (bardet biedl syndrome), TSC1 (tuberous sclerosis).

Renal tubular diseases have definite and occasionally multiple gene disorders for example proximal RTA (CA2), autosomal recessive distal RTA (AT6B1), and barter syndrome (NKCC2, ROMK).

Multiple genes have found to be associated with metabolic causes of urolithiasis and also with congenital anomalies of kidney and urinary tract such as renal agenesis and vesicoureteral reflux. At last most recent studies have shown role of MYH9 and APOL1 genes in progression of renal disease to ESRD.

Conclusion. Genetics has significant role in wide range of both rare and common renal diseases. Insight of pediatric nephrologists into this important issue and further researches may help to find more effective ways of their diagnosis, prevention and treatment.

P146

Incidence of Asymptomatic Meatal Stenosis in Children Following Neonatal Circumcision

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Introduction. To determine the incidence of meatal

stenosis after neonatal circumcision.

Methods. Male children who had been circumcised during the Neonatal period and presented at our pediatric clinic for reasons other than urinary complaints were examined and interviewed regarding urination problems.

Results. Of the 132 cases, 27 (20.4%) had severe meatal stenosis (diameter < 5 F). Thickening of the bladder and bilateral hydronephrosis (pyelocaliceal) were found in three cases (11.1%), and a voiding cystourethrogram was performed to reveal vesicoureteral reflux (VUR). One patient had grade II VUR in his right kidney and grade III in his left kidney; another had grade II VUR in both kidneys.

Conclusion. These results highlight the importance of follow-up genital examination for all male children who have been circumcised during the neonatal period, to detect possible meatal stenosis.

P147

Increase Carotid Intima Media Thickness in Children and Young Adults With Renal Transplantation

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Introduction. Cardiovascular disease is a main cause of morbidity and mortality among children and young adults after renal transplantation. There is a close relation between carotid intima media thickness (CIMT) and cardiovascular disease. The main aim of this study was to investigate CIMT and it's relation to risk factors of early arteriopathy in renal transplanted patients.

Methods. Sixty-six renal transplanted patients (30 female, 36 male) with stable graft function and 66 age and sex matched healthy controls were enrolled in this study. The measurement of CIMT was performed with high resolution B mode ultrasonography in multiple projections. The results were correlated with clinical and paraclinical parameters. Statistical analysis was performed by SPSS-15 and T-test as well as multiple regressions.

Results. The mean age of patients was 18.3 ± 4.5 years. The mean time for CKD to transplantation was 40 ± 26 months. The average GFR at the time of study was 81 ± 28.7 mL/min/ 1.73 m². Compared

with control subjects, transplant patients had significantly higher CIMT ($P = 0.003$). Among risk factors, positive correlation was found between CIMT and age, sex (male compared female) and cumulative dose of calcitriol ($P = 0.001$, $P = 0.001$, $P = 0.26$; respectively). Significant positive correlation was not found between CIMT and BMI, blood pressure, GFR, duration of dialysis, duration of CKD, Ca \times P product, cumulative dose of P-binder, lipid profile, uric acid, cyclosporine level or rejection episodes.

Conclusion. Subclinical atherosclerosis is present in young transplant recipients. Non invasive monitoring of CIMT in renal transplant patients for detection of early vascular lesions would be of outmost value in preventing cardiovascular disease. Regarding our study as important role of calcitriol and positive correlation with CIMT, it seems fine control of Ca, Ph homeostasis, and also dose of calcium based phosphate binder and calcitriol is very important.

P148

Laparoscopic Upper Pole Heminephrectomy for Duplicated Renal Collecting Systems

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Introduction. Ureteral duplication is a relatively common congenital anomaly of the genitourinary tract. When symptomatic due to urinary tract infection, flank pain or urinary incontinence the standard surgical treatment is upper pole heminephrectomy. Until recently surgery involved a flank incision with significant morbidity and prolonged recovery time. We report our experience with laparoscopic upper pole partial nephrectomy with a duplicated collecting system and an obstructed, poorly functioning upper pole renal moiety with ectopic ureter. Laparoscopic heminephrectomy (LHN) is a well tolerated, minimally invasive, although technically demanding, procedure for children with a non-functioning moiety in a duplex kidney.

Methods. A 5 years girl with urinary incontinence underwent the transperitoneal approach. After reflecting the colon medially; both ipsilateral

duplicated ureters were identified. The upper pole ureter was transected at the level of the iliac vessels, with the distal end left open. The upper pole ureter was then dissected cephalad toward the renal hilum and upper pole atrophic moiety. The vascular supply to the upper pole renal moiety was meticulously dissected and controlled using vascular clips. The renal upper pole moiety was then excised along the atrophic cleavage plane using electrocautery.

Results. Operative time was 150 min. No conversion to open surgery was necessary and there were no complications during surgery and no need to blood transfusion. Estimated blood loss was less than 50 mL.

Conclusion. The laparoscopic approach is feasible, safe, reduces hospital stay, does not increase operating time and has better cosmetic results. We believe this should be the first option for heminephrectomy.

P149

Late Anemia in Pediatric Kidney Transplant Recipients: Prevalence and Risk Factors

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Introduction. Anemia is a frequent complication among pediatric transplant recipients. However, limited published studies are currently available about anemia in these patients. Therefore, we conducted a retrospective study to determine the prevalence and risk factors of late post-transplant anemia (PTA) among pediatric kidney transplant patients.

Methods. A total of 78 kidney transplant patients ≤ 18 years old were enrolled. Prevalence of late PTA, beyond 1 year after transplantation, in children was evaluated between 2008 to 2011. We considered anemia as hemoglobin concentration of ≤ 11 g/dL and ≤ 10 g/dL as a severe anemia. Both univariate and multivariate analyses were performed for determining the correlation of PTA with other risk factors such as renal allograft function and other laboratory parameters.

Result. The mean age of recipients was 10 ± 3 years; 58% male and 42% female. The prevalence PTA in

this survey was 15.4% (n = 12). The prevalence of late PTA was not different in both boys and girls ($P = 0.38$). At univariate analysis, a significant relationship was seen between serum creatinine concentrations and Hb levels ($P = 0.005$, $r = 0.32$) and there was also a significant relationship between serum Hb and cyclosporine trough blood level ($P = 0.009$, $r = 0.29$) and 2 hour post dose level of cyclosporine ($P = 0.03$, $r = 0.29$). At multivariate logistic regression after adjustment for other factors, however, renal allograft impairment was only a risk factor for late PTA [$P = 0.05$, EXP (B) = 2.5; 95% CI = 1.0 to 6.3].

Conclusion. The prevalence of late PTA in our children was lower than previous reports in literature from both adult and pediatric transplant patients.

P150

Leflunomide Therapy for Polyomavirus Nephropathy in Pediatric Kidney Transplant Recipients

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Introduction. Polyoma virus (PV) is an important cause of kidney transplant (KT) failure. The aim of this retrospective cohort study was to evaluate efficacy and adverse effects (AEs) of leflunomide (LEF) antiviral therapy in children with PV nephropathy (PVN)

Methods. Of a total of 60 KT recipients, 8 (13%) were identified with histologically proven (n=5) or presumed PVN.

Results. Median age at diagnosis was 10.1 years old (range 3.2 to 16.9 years old). BK viral load was 7.8×10^4 mL plasma. Two pts with histologically documented (large T-antigen positive) PVN demonstrated replication of JCV (1.7×10^6 mL plasma) or of BK and JCV; respectively. Seven patients experienced a rise in serum creatinine (25% from baseline) prior to diagnosis (range 12 to 72%). MMF was discontinued in 6 of 7 and reduced in 1, tacrolimus reduced in 6 of 7, and sirolimus in 1 of 1 pts.

Individual, median steady state LEF plasma levels

ranged from 29 to 166 ng/mL (mean 75 ng/mL). 6 of 8 pts cleared PV from plasma after 17.3 mo of treatment (range 1 to 30 mo). Histological disappearance of T-Ag positivity was documented in the single patient with follow-up biopsy 10.5 mo after LEF initiation. At the end of the observation period, 5 of 8 patients had ceased shedding virus in urine; creatinine had returned to baseline in 4, and was stable or slowly creeping in 3 and 1 pt, respectively.

LEF treatment was discontinued after 2 mo in a patient with preexisting mild hepatopathy, who demonstrated increasing plasma transferase activities. No pt required dose modifications for anemia or other documented AE.

Conclusion. LEF was well tolerated with the exception of one instance of reversible liver enzyme elevation. The therapeutic efficacy of LEF, in combination with IS reduction, and measured as molecular clearing of viral replication, was good. None of the pts lost their graft due to intractable PVN or experienced a rejection after LEF initiation and reduction of IS.

P151

Lived Experiences of Mothers of Children With Urinary Incontinence: Phenomenological Approach

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Introduction. Involuntary and inappropriate urinary excretion in bed or cloths at least twice a week till three months in a child who should have voluntary bladder control normally can have harmful effects on the child and parents. This situation doesn't have any association with direct physiological effects of substances such as diuretics or public medical problems.

Methods. In this qualitative study, experiences of 10 mothers of 5 to 14 years old children suffering from enuresis were investigated by using semi-structured interviews until data saturation. After transcription, data were analyzed using content analysis.

Results. The main themes were as following: 1- Experiences about ways to deal with urinary

incontinence contain: lack of knowledge of mothers regarding treatment, hopelessness and shame. 2- Experiences related to the objective effects of urinary incontinence contain: the negative effects on social relationships, socioeconomic status and personal habits of mothers. 3- Experiences related to subjective effects of urinary incontinence include: fear of future, scapegoat and using inappropriate coping strategies.

Discussion. The findings indicated that children suffering from urinary incontinence can impose stress, anxiety and many negative changes to the mothers and their families and threaten their healthy way of life.

Conclusion. According to the psychological effects of this disorder, it is recommended that parents and their child get consultations regularly and to be educated regarding treatment and to promote their motivation for follow up.

P152

Metabolic Evaluation for Renal Stone in Pediatric Cystic Fibrosis Patients

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Introduction. Cystic fibrosis (CF) is an inherited metabolic disorder causing progressive disability and often early death. There are several studies demonstrating a higher prevalence of calcium oxalate nephrolithiasis. The aim of this study was to evaluate the prevalence of metabolic abnormalities related to renal illness in a group of pediatric CF patients.

Methods. A total of 45 pediatric patients were evaluated, with a mean age of 47.1 months who had cystic fibrosis. No one had a history of nephrolithiasis. The records were reviewed for clinical characteristics and all patients underwent metabolic evaluation, including serum electrolyte measurement and spot urine collection. Ultrasonography was performed for all patients to detect nephrocalcinosis and urolithiasis.

Results. The incidence of nephrocalcinosis (5 out of 45) was 11%. No patient had symptoms or signs of nephrolithiasis and microscopic hematuria. Evaluation of serum metabolites in CF patients

versus normal reference values showed decreased uric acid level in 48.8% but elevated phosphate level in 24.4% of patients. In urinary assessment, 51% of patients had elevated urinary oxalate.

Metabolic evaluation of the nephrocalcinosis positive versus negative groups showed no statistical difference in serum electrolytes. The mean value of urinary calcium excretion was lower in patients with nephrocalcinosis ($P = 0.001$). Although severe steatorrhea was higher in patients with hyperoxaluria there was no correlation between steatorrhea and urine calcium as well as oxalate excretion in nephrocalcinotic patients.

Conclusions. According to the absence of secondary causes of hypocalciuria in the nephrocalcinotic patients, we can hypothesize that hypocalciuria may be due to a primary defect in renal calcium metabolism in CF patients. For evaluation of this hypothesis, more controlled studies are needed.

P153

Metabolic Factor in Pediatric Urolithiasis

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Introduction. Urolithiasis is increasingly recognized in pediatric patients and is encountered in a variety of clinical settings. Understandings of how and why stones form, along with knowledge of the pathophysiologic states that promote urinary tract calculi, provide the basis for effective clinical management. The aim of this study was to evaluate the clinical features, metabolic and anatomic risk factors in children with urolithiasis.

Methods. Between 2004 and 2009, 84 children (35 girls, 49 boys) followed in our department because of urolithiasis were enrolled to participate in our study. Clinical presentation, urinary tract infection, stone localization, positive family history, stone composition, presence of anatomic abnormalities and urinary metabolic risk factors were evaluated retrospectively. Evaluation included serum biochemistry; measurement of daily excretion of urinary calcium, uric acid, oxalate, citrate, and magnesium (in older children); and measurement of calcium, uric acid, oxalate, and creatinine in random urine samples in nontilet-trained patients.

Results. We investigated 84 patients (35 females and 49 males) with urolithiasis between 6 months and 16 years of age (mean age 5.25 ± 3.61 years). The stones' diameter was 3.2 to 31 mm (mean 7.31 ± 4.64). In 90.6% of cases the stone was located only in kidneys and in 2.4% only in bladder. The most common causes of presentation were urinary tract infection (UTI), restlessness and abdominal pain. Positive family history was detected in 27.3%, UTI in 23.8%, anatomic abnormality in 10.7% of patients. Metabolic evaluation, which was carried out in 78 patients, revealed that 104 (52.6%) of them had a metabolic riskfactor including normocalcemic hypercalciuria (21.7%), Hyperuricosuria (11.5%), Cystinuria (3.8%), and Hyperoxaluria (5.1%). Anatomical malformation was found in 12 children (14.3%) including vesicoureteral reflux in 3, ureteropelvic junction stenosis in 5 and bilateral duplex system in 2, horseshoe kidney and ureterovesical junction obstruction one each.

Conclusions. We think that urolithiasis remains a serious problem in children in our country. Family history of urolithiasis, urologic abnormalities (especially under the age of 5 years), metabolic disorders and urinary tract infections tend to indicate childhood urolithiasis. It is plausible to consider that better understanding of the causes of pediatric-age urolithiasis may lead to earlier diagnosis and appropriate treatment of the metabolic diseases and hence the prevention of renal damage and recurrences may be possible.

P154

Metabolic Risk Factors of Urolithiasis in Children Referred to Pediatric Nephrology Clinic in Hamedan

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Introduction. Urinary stones are among the most common complaints referred to nephrologist and urologists. Although incidence of urolithiasis is low in children compared to adults' potential complications and growing diagnosis of stone disease in pediatrics require more attention to possible metabolic causes of stone disease for proper prevention and management of pediatric urolithiasis. We evaluated the metabolic causes

of urinary stones in children referred to pediatric nephrology clinic.

Methods. In this descriptive cross sectional study 156 patients referred due to urinary stones to pediatric nephrology clinic underwent thorough metabolic evaluations including: serum calcium, phosphorus, uric acid, creatinine and non fasting random urine sample for calcium, creatinine, uric acid, oxalate, citrate and cystine. Urine solute: creatinine ratios were calculated and compared with normative data.

Result. Of 156 patients 136 (87.2%) had metabolic derangements including: hyperuricosuria in 71 (45.5%), hypercalciuria in 41 (26.3%), hypocitraturia in 26 (16.7%), hyperoxaluria in 16 (10.3%), cystinuria in 1 (0.6%), and metabolic acidosis in 39 (25%).

Conclusion. High rate of metabolic derangement in pediatric urinary stone patients mandates proper metabolic evaluation in all of them. Hyperuricosuria was the most common metabolic finding instead of hypercalciuria in this study. This could be due to differences in diet, geographic area and genetic background in various populations.

P155

Molecular Genetics of Autosomal Recessive Polycystic Kidney Disease

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Introduction. Autosomal recessive polycystic kidney disease (ARPKD) is caused by mutations in the PKHD1 (polycystic kidney and hepatic disease 1) gene on chromosome 6p12, a large gene spanning 470 kb of genomic DNA. So far, only micromutations in the 66 exons encoding the longest open reading frame (ORF) have been described, and account for about 80% of mutations. Its clinical spectrum is widely variable with most cases presenting in infancy. Most affected neonates die within the first few hours of life.

Methods. At present study, we have analyzed the segregation of eight microsatellite markers from the ARPKD interval in one family with the severe phenotype.

Results. Our data confirm linkage and refine the ARPKD region to a 3.8-cM interval, delimited by the markers D6S269, D6S465, D6S427, D6S436, D6S272, D6S466, D6S295 and D6S1714 and most

common mutation, T36M. Taken together, these results suggest that, despite the wide variability in clinical phenotypes, there is a single ARPKD gene.

Conclusion. These linkage data and the absence of genetic heterogeneity in this family tested to date have important implications for DNA based prenatal diagnosis as well as for the isolation of the ARPKD gene.

P156

Neonatal Jaundice Accompanying Urinary Tract Infections

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Introduction. Urinary tract infections (UTI) are common and serious clinical problems in newborn infants. Previous studies have reported that jaundice may be one of the signs of a UTI in infants. The aim of this study was to evaluate the incidence, age presentation, and severity of jaundice, sign and complications of UTI in newborns with asymptomatic, unexplained indirect hyperbilirubinemia.

Methods. This was a cross sectional study conducted between May 2004 and April 2009, at the Neonatal intensive care unit, Ghaem Hospital, Mashhad, Iran. A total of 1487 infants with jaundice were recruited of which 1061 patients were evaluated for UTI. Among them, 629 infants were excluded and remaining 74 patients with UTI and 358 infants with unknown etiology of jaundice without UTI. Demographic data including prenatal, intrapartum, postnatal events and risk factors were collected by questionnaire. Biochemical markers including serum fractionated bilirubin level, urinalysis, and routine laboratory tests were measured. Written informed consent from parents of infants was obtained. The protocol was approved by the Medical Ethics Committee of Mashhad University of Medical Sciences.

Results. Age presentation, age admitted to hospital, age of improved jaundice, serum bilirubin level and hospital stay in case group were significantly higher than control groups ($p < 0.05$). UTI was diagnosed in seventy four (6.97%) cases (escherichia coli (44.4%), klebsiella pneumoniae (22%)). Pyuria and or Bacteriuria were present in 58% of patients. Renal

ultrasound showed urinary tract abnormalities in Twenty three (23%) patients. Six infants had unilateral grade 1 to 3 reflux in voiding cysto urethrogram (VCUG).

Conclusion. UTI was found in 7% of asymptomatic, jaundiced infants. Therefore, we recommend that testing for a UTI be included as part of the evaluation in asymptomatic, jaundiced infants presenting after five day of life. These infants should be evaluated for urinary tract abnormality by renal ultrasound and VCUG.

P157

Normal Ratios of Urinary Calcium, Oxalate, Uric Acid, Phosphate Magnesium and Citrate to Creatinine in Ahvazi Children

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Introduction. Seventy- five percent of children and adolescents with urolithiasis have identifiable predisposing factors. Metabolic causes account for approximately 33% of factors.

The aim of this study was to determine the normal values for Calcium (Ca), Oxalate (Ox), Uric Acid (UA), Magnesium (Mg), Phosphate (Pho), Citrate to Creatinine (Cr) ratios in random urine sample in children aged 7 to 10 years old in Ahvaz city.

Methods. In a descriptive cross sectional study from October to December 2010 we determined urinary Ca/Cr, Ox/ Cr, U.A/Cr, Mg/Cr, pho/Cr, and Citrate/Cr ratios in the random urine samples of 232 children aged 7 to 10 years old. Thereafter 24 hr urine calcium, oxalate and uric acid were measured in the patients who had Ca/ Cr, Ox/Cr or U.A/Cr over 95th percentile. In patients who had hypercalciuria hyperoxaluria or hyperuricosuria, other work up for renal stone was done.

Results. Among 232 children aged 7 to 10 years, 128 were females and 104 were males. The results are shown below as mean \pm SD, and 95th percentile respectively: Ca/Cr: $[0.142 \pm 0.186 \text{ mg/mg}, 0.295 \text{ mg/mg}]$, Ox/Cr: $[0.068 \pm 0.090 \text{ mg/mg}, 0.230 \text{ mg/mg}]$, U.A/Cr: $[0.358 \pm 0.211 \text{ mg/mg}, 0.690 \text{ mg/mg}]$, Mg/Cr: $[0.101 \pm 0.081 \text{ mg/mg}, 0.227 \text{ mg/mg}]$, Pho/Cr: $[0.439 \pm 0.426 \text{ mg/mg}, 1.01 \text{ mg/mg}]$, and Citrate/Cr: $[0.454 \pm 0.591 \text{ mg/mg}, 1.00 \text{ mg/mg}]$.

A statistically significant difference was not observed between boys and girls ($P > 0.05$). Among the 25 children who had elevated levels of mineral excretion based on random urine samples 4 patients had hypercalciuria 5 patient's had hyperoxaluria and 1 patient had hyperuricosuria based on 24 hours urine collection.

Conclusion. Normal value urinary mineral excretion varies with age and geographic area. It is important to have normal values of solute to creatinine concentration ratios for children at different ages and geographic areas.

P158

Outcome of Renal Transplantation in Pediatric Patients: Results of 20 Years Experience in a Single Center

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Introduction. The incidence of renal failure in children under 19 years has been estimated at approximately 11 per million (US data system). In the recent years the numbers of children who survive renal disease and become candidates for renal transplantation have been increased. In this study we reviewed 20 years of our experience in pediatric renal transplantation to determine the rate of patient morbidity and graft survival.

Methods. Of 1600 renal transplantation performed in our center (1989 to 2010) 190 were done on children (6 to 18 years). Causes of renal failure were: Neurogenic bladder 22 cases, reflux nephropathy 31, posterior urethral valve 6 cases, prune belly syndrome 2 cases, chronic glomerulonephritis 65 cases. The remaining failures were of unknown etiology. 16% of kidneys were harvested from related living donor, 66% from unrelated living donor, and 22% from cadaveric donors. Immunosuppressive therapy was given with three drugs (prednisocon, azathioprine or mycophenolate mofetile and cyclosporine) in all of patients with the exception of 11 recipients of HLA identical sibling, who did not receive cyclosporine. The kaplan-meier curve was constructed to assess graft and patients survival and the log rank test was used to assess the effect of kidney source and

date of renal transplant.

Results. Immediate diuresis occurred in all grafts. Surgical complications included two urinary fistulas, two ureteral strictures and 3 clinical lymphocele which were all managed surgically. The most common causes of graft failure were chronic rejection and recurrence of primary renal disease. The graft survival rate after 1, 2, 5, 10, and 15 years were 97%, 88%, 79%, 65%, and 53% ; respectively.

Conclusion. Renal transplantation in children results in improvement in physical growth and mental development. Rate of graft survival, chronic rejection recurrence of primary renal disease and medical non compliance, continue to be problematic.

P159

Outcome of Vesicoureteral Reflux in Infants: Impact of Prenatal Diagnosis

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Introduction. The aim of study was comparing the natural history and outcome of vesicoureteral reflux in infants less than one year diagnosed prenatally or postnatally.

Methods. All infants less than 12 mo old with vesicoureteral reflux were enrolled in two groups. Group 1 composed of patients with antenatal hydronephrosis and group 2, infants with diagnosis of VUR because of UTI or other postnatal problems. We followed patents for an average of 22 mo. Outcome was assessed by several factors: somatic growth, need for surgery, resolution, occurrence of UTI, scar and hypertension.

Results. We studied 104 patients (155 renal units), 51 group 1, and 53 group 2 infants (59 boys, 45 girls). Occurrence of recurrent UTI and HTN was 10.6% and 1.9% respectively. Reflux resolved in 66% and improved in 13% and scar developed in 23% of renal units. Surgery was performed in six (10.6%) of patients. There was no significant difference in any of these factors between two groups.

Conclusion. VUR diagnosed prenatally has similar importance and outcome as postnatally diagnosed one. We suggest performing the same imaging and treatment procedures for both groups.

P160

Percutaneous Treatment of Bladder Stones in Children, 5-Year Experience

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Introduction. The aim of study was evaluation of our experience with percutaneous cystolithotripsy in children.

Methods. 30 children with bladder stones entered this study. The patients were between 1.5 to 12 years old (mean 6.06 ± 2.64). The mean of largest diameter of stones was 24.8 ± 8.47 mm (range 13 to 50). The operation was done under general anesthesia in supine position with an incision (about 1 cm), 1 to 2cm above the pubic symphysis. The 26F nephroscope was introduced into the bladder after tract dilation and the stone removed, intact if small or fragmented with Swiss Lithoclast, if > 1 cm. The procedure was done without fluoroscopy. At the end of the intervention a urethral catheter was left for 48h.

Results. All patients became stone free. The mean operating time was 23.13 ± 8.38 min (range 12 to 40). All patients were discharged 24h after operation, with the exception of one child. No significant complication, such as peritoneal injuries and bleeding during or after operation was seen.

Conclusion. Percutaneous suprapubic cystolithotripsy is an efficient and safe technique for the treatment of bladder stones in children. We recommend this technique for the treatment of large bladder stones (> 1 cm) in children.

P161

Peritoneal Dialysis in Neonates With Inborn Errors of Metabolism

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Introduction. Peritoneal and extracorporeal dialyses are used to treat newborns affected by inborn errors of metabolism to minimize the effects of the acute accumulation of neurotoxic metabolites that can produce irreversible and severe neurological damage and even death.

Methods. In this report, peritoneal dialysis has been described as effective treatment in improving the prognosis in newborns with inborn errors of metabolism and hyperammonemia.

Results. During five years 27 newborn patients underwent PD. All patients were placed on temporary cycling PD. The most common cause was (14 patients, 52%) inborn error of metabolism. There were 9 female and 5 male, all patients were term mean age at time of diagnosis was 15 days with a range of 5 to 22 days. Mean birth weight was 1950 g with a range of 2100 to 3200 g, 6 (42.8%) patients died. 13 (92.8%) patients needed assisted ventilation with endotracheal tube. 7 (50%) patients with hyper ammonia, underwent two volume blood exchange transfusion before PD. Inborn errors of metabolism were recognized as: Methylmalonic academia 2 cases, Urea cycle enzyme defect 1 case, argininosuccinic acid lyase deficiency 1 case, hyperammonia 5 cases, classic maple syrup urine disease 5 cases.

Conclusion. Our results demonstrate that peritoneal dialysis may still be an effective treatment for neonatal hyperammonemia and other causes of inborn errors of metabolism. Furthermore, peritoneal dialysis can be administered quickly and easily in all settings, clearly an advantage when fast intervention is so crucial.

P162

Peritonitis in Children Being Treated With Continuous Ambulatory Peritoneal Dialysis

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Introduction. Continuous ambulatory peritoneal dialysis (CAPD) is an established treatment option for patients with end-stage renal disease (ESRD). This form of renal replacement therapy is used in most children with end-stage renal disease who are awaiting renal transplantation. CAPD is also preferred over hemodialysis for patients whose vascular access is difficult.

However, certain complications such as peritonitis are more frequent with CAPD.

Methods. A six-year retrospective study was performed to determine the incidence of peritonitis in a pediatric continuous ambulatory peritoneal

dialysis (CAPD) population of 73 children at Dr Sheikh hospital.

Results. The mean age of the patients was $5 \text{ y} \pm 2 \text{ mo}$, 58.9% of them were boys and 43% were girls. Kidney dysplasia with or without vesicoureteral reflux was most common causes of ESRD (34%). The incidence of peritonitis was one episode every 30 patient-months. Microbiologic evaluation showed that 16.28% of the episodes were gram-positive microorganisms, 27.91% were gram-negative infections and 13.95% were fungal agents. 3.7% of patients had negative cultures. Cloudy dialysate was the major presentation. Peritonitis was treated with intraperitoneal administration of vancomycin and / or ceftazidime when suspected, and 29.4% of the episodes needed hospitalization. Except for 2 patients who died of complications (fungal peritonitis) all episodes of peritonitis were cured; in 5 episodes it was necessary to remove a catheter. **Conclusion.** Most of the Peritonitis in CAPD patients responded well to medical treatment and the major organisms were gram-positives.

P163

Prevalence of Enuresis in Elementary School Children

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Introduction. Enuresis is defined as having the following problems at least twice a week for at least three months in 6 to 12 years old and even older children. The complications of enuresis depend on the exerted limitations on social activities (such as participation in short – Lived camps), its influence on child's self confidence, the rate of excommunication from the same age and anger, punishment and excommunication from supervisors. This study was purposely done to determine the prevalence of elementary school children's enuresis in Khoramabad.

Methods. This study was a descriptive one in which 3070 of elementary school children (half of them were boy and the other half was girl) were considered based on having enuresis.

Results. After considering the related questionnaires, it was found that 166 people of this group who composed 5.5% of people, had enuresis problem. In other words, the prevalence of enuresis was

determined as 5.5% in the above mentioned group. In this study, the prevalence of enuresis was more in boys (6.7% in contrast to 4.1%).

Conclusion. This problem was more frequent in 6 to 9 years old children (both girls and boys). More than half of this contracted group (55%) had family background.

P164

Prevalence of Obesity and Hypertension in South West Iranian Children

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Introduction. Obesity is a growing problem world wide and is one of the major causes of the increased prevalence of hypertension in children. The aim of this study was to investigate the frequency of pediatric obesity and its association with hypertension in a sample of Iranian children and adolescents.

Methods. A total of 2000 healthy students aged 11 to 17 years were screened. Data on weight, height, systolic and diastolic blood pressure, parental history of hypertension and maternal educational level were obtained. Hypertension was defined as the average of three systolic and diastolic BP recordings $\geq 95^{\text{th}}$ age-, sex- and height-matched percentile of the reference standard.

BMI $\geq 95^{\text{th}}$ percentile was defined as obesity and between 85% and 95% percentile for age and sex considered overweight. Statistical analysis was done with chi-square and multivariate multiple regression tests.

Results. Overall 7%, 13%, and 11.8% of students were obese, overweight, and hypertensive, respectively. 30.7% of obese compared with 8.4% of normal weight children were hypertensive. There was a strong association between obesity and hypertension ($P = 0.0001$).

In multivariate analysis both BMI Z-score and age were associated with systolic and diastolic blood pressure, respectively ($P = 0.016$, $p < 0.001$ for systolic BP; $P = 0.01$, $P < 0.001$ for diastolic BP). Parental history of hypertension and maternal educational level were not associated with hypertension.

Conclusion. These results confirmed that obesity

was an important risk factor for hypertension in children and adolescents. The high prevalence of hypertension in obese children emphasizes the need for prevention and control of childhood obesity from early stages.

P165

Pyuria in Children With Kawasaki Disease

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Introduction. Pyuria is included in the American Heart Association list of supporting laboratory data for diagnosis of Kawasaki disease (KD). The aim of this study was to define the rate of pyuria in children with KD and investigate the relation with other clinical and laboratory findings.

Methods. In a prospective study, we evaluated all cases of Kawasaki disease referred to our center during 2002 to 2010 according to AAP definition. All patients were treated at Imam-Reza hospital (a university hospital with 995 beds) in Mashhad (a city in northeastern of Iran). Pyuria was defined as ≥ 10 WBCs /HPF in the urine.

Results. Pyuria was present in 42 (40.8%) of 103 children with KD. Children with KD and pyuria had more vomiting ($P = 0.036$), higher PMN in blood profile ($P = 0.034$) and elevated ALT ($P = 0.034$) in relation to children with KD without pyuria. The presence of pyuria was associated with less cardiac involvement in these patients but statistically insignificant ($P = 0.057$).

Conclusion. Pyuria is common in children with KD. There was not any increased risk of cardiac involvement in children with KD and pyuria.

P166

Reliability, Validity and Feasibility of Persian Version of PedsQL TM Generic Core Scales in Toddlers, Children and Early Adolescent

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Introduction. One of the most important aspects of preventive medicine is improving quality of life. Health related quality of life (HRQOL) includes not only physical functioning but also emotional and social functioning dimensions. According to our knowledge, there is no valid Persian version of PedsQL questionnaire. We are the first group in Iran that validated this questionnaire for children and early adolescents into Persian version. The aim of the study was to evaluate the reliability, validity and feasibility of the Persian version of the Pediatric Quality of Life inventory (PedsQLTM 4.0) Generic Core Scales in Iranian healthy students ages 7 to 15 and chronically ill children ages 2 to 18.

Methods. We followed the translation methodology proposed by developer. Sample of 160 healthy students (chosen by random cluster method between 4 regions of Esfahan education office) and 60 chronically ill children (chosen consequently from patients referred to St. Alzahra hospital private clinics) and their parents completed the Persian version of PedsQLTM4.0 Generic Core Scales.

Results. The Persian version of PedsQLTM4.0 Generic Core Scales discriminated between healthy and chronically ill children (healthy students mean score was 12.3 better than chronically ill children, $P < 0.001$). Cronbach's Alpha internal consistency values exceeded 0.7 for children self reports and proxy reports of children 5 to 7 years old and 13 to 18 years old. Reliability of proxy reports for 2 to 4 years old was much lower than 0.7. Although proxy reports for chronically ill children 8 to 12 years old was more than 0.7 these reports for healthy children with same age group was slightly lower than 0.7. Constructive, criterion, face and content validity were all acceptable. The Persian version of PedsQLTM4.0 Generic Core Scales was feasible and easy to complete.

Conclusion. Results show that the Persian version of PedsQLTM4.0 Generic Core Scales is suitable for pediatric health researches children over 8 and parents of chronically ill children over 5. It is necessary to find an alternate scoring for 2 to 4 years old questionnaire to increase reliability of this form for healthy children in the age range of 8 to 12 with especial attention to Iranian culture.

P167

Collagen Type IV Increase in the Renal Tissue of Diabetic Balb/c Mice

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Introduction. Extra-cellular matrix and basement membrane play important roles in many developmental phenomena during development and after birth. Among the components of the basement membrane, collagen fibers specially type IV, are the most important part of this area. As kidney is one of the target organs in diabetes mellitus and diabetic nephropathy is a major cause of end stage-renal disease which can result in an increased morbidity and mortality of effected individuals, early diagnosis leads to better treatment. The aim of this investigation was to study the primary diagnostic parameters with special regards to collagen IV fibers.

Methods. Male balb/c mice were divided into experimental and control groups. In experimental group, the beta cells of Langerhans were chemically destroyed by an injection of alloxan and the group was further subdivided into experimental groups 1 and 2. Controls were kept untreated. Experimental group 1 and 2 were sacrificed 8 and 16 weeks after treatment with alloxan respectively. The same procedure was performed for control group. Immunohistochemical studies were carried out using monoclonal antibody against collagen type IV in Glomeruli. In addition, using morphometrical and stereological methods the volume of the glomeruli was compared in all groups.

Results. Our finding showed that in experimental groups especially in 16 weeks diabetic mice, the rate of collagen type IV in basement membrane around the parietal layer of Bowman capsule, mesangial cells and endothelium of capillary in glomerules increased significantly compared to controls and experimental group 1, while there was not a significant difference among experimental group 2 and controls. Our data also revealed that the number of mesangial cells as well as glomerular volume increased significantly in experimental 2 compared to experimental 1 and controls.

Conclusion. This study indicated that any increase in the amount of collagen type IV in glomeruli as well as mesangial cells and glomeruli volume which

may happen early in diabetes mellitus, could be able to affect the physiology of the kidneys and it is a helpful tool for early diagnosis of affected kidney.

P168

Role of Hydrochlorothiazide in Hypercalciuric Urolithiasis of Childhood

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Introduction. To analyze the role of hydrochlorothiazide (HCTZ) in pediatric stone formers with hypercalciuria urolithiasis considering hypocalciuric action of the drug and to define possible factors affecting response to HCTZ.

Methods. In a 2 years period (2007 to 2008), 19 pediatric stone formers with idiopathic hypercalciuric urolithiasis prospectively were evaluated at a single academic center. Patients were 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) as well as renal ultra sonography (US). HCTZ was recommended in a dosage of 1 to 2 mg/kg/d with polycitra-potassium (combination of citric-acid and potassium citrate) 1 meq/kg/d.

Results. Of 19 patients 12 (63.2%) were female and 7 (36.8%) were male (F/M = 1.7). 11 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 (36.8 %) patients 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 didn't change during follow up.

Conclusion. Although approximately in 50% of patients after treatment with HCTZ Ca excretion rate returned to normal range, it accompanied stone size changes in 5 (26.2%). Interestingly all the 5 patients with favorable response were female. According to our study, combinations of diet modification and

HCTZ has reasonable hypocalciuric effects, but it's not efficient in stopping stone formation process.

P169

Simplified Diagnostic Algorithm for the Evaluation of Neonates With Prenatally Detected Hydronephrosis.

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Introduction. Congenital obstructive uropathy is the primary cause of chronic renal failure in children. Diagnostic and treatment options for newborn infants with congenital hydronephrosis (HN) are controversial. The present study was conducted to assess the role of kidney ultrasound, voiding cystoureterogram (VCUG), and diuretic-enhanced renogram to establish a simple diagnostic algorithm for postnatal evaluation of HN.

Methods. A prospective study of 76 neonates with fetal HN delivered between April 2002 and January 2010 was performed. Data collected included kidney ultrasound, VCUG, and diuretic-enhanced renogram. The ultrasound grading of hydronephrosis (HN) was determined according to the Society of Fetal Urology criteria.

Results. Sixty one neonates (47 males and 14 females) with fetal HN were enrolled. All underwent kidney ultrasound at a mean postnatal age of 4 days. Four (6%) had no residual HN, 23 (38%) had unilateral HN [3 Grades I, 12 Grades II, 4 Grades III, and 4 Grades IV] and 34 (56%) had bilateral HN [1Grade I, 15 Grades II, 7 Grades III, and 11 Grades IV]. Of the 41 newborns exposed to diuretic renogram, 18 (44%) had ureteropelvic junction (UPJ) obstruction (9 unilateral and 9 bilateral). Of the 34 infants who underwent VCUG, 8 (24%) had vesicoureteral reflux (VUR); (bilateral: 2 grades II, 1 grade III, and 4 grades IV); 7 of the patients had bilateral HN (Grade 2 or higher) and 1 unilateral HN (Grade 1). None of the 23 neonates with Grade I-II HN (unilateral or bilateral) required surgical intervention.

Conclusion. These data suggest that mild and moderate unilateral or bilateral HN rarely coexists

with severe obstruction or VUR. Therefore in such patients systemic VCUG and diuretic renogram do not seem justified. Postnatal sonography in combination with renogram and VCUG is warranted in the routine examination of neonates presenting with severe unilateral or bilateral HN.

P170

STZ-Induced Hyperglycemia and Launaea Extract Administration Effects on Urine Glucose and Totalprotein

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Introduction. Nowadays, diabetes and its related metabolic disorders are the main causes of end stage renal disease. The present study was aimed to investigate the effects of *Launaea acanthodes* hydro-alcoholic extract administration on the renal excretion of glucose and total protein in streptozotocin (STZ)- induced hyperglycemia in rat.

Methods. Twenty four male Wistar rats were randomly allocated into four groups; control, hyperglycemic (STZ), hyperglycemia + insulin (STZ + Ins); and hyperglycemia + Extract (STZ + Ext). After induction of hyperglycemia, daily insulin (5 IU/kg/d) and extract (150 mg/kg/d) administrations were started. For sugar and total protein assays, blood and urine samples were taken at the end of 2nd and 4th weeks of treatments.

Results. In comparison with control group, in 2nd and 4th week samples the serum level of glucose in STZ and STZ + Ins groups were significantly increased but in STZ + Ext group the sugar was at normal and subnormal levels in 2nd and 4th week samples, respectively. The levels of urine glucose at 2nd week were significantly increased in STZ and STZ + Ins groups but there was no significant difference in STZ + Ext. In 4th week urine samples, the level of total protein was remarkably increased in STZ and STZ + Ins while in STZ + Ext group was not.

Conclusion. Based on the above results, it seems that *L.acanthodes* extract administration, may partially, not only improved the renal metabolic

and functional disorders but also prevent renal sugar and protein excretion.

P171

Subjective Global Assessment of Nutrition Status and Its Relation to Anthropometric and Biochemical Measurements in Hemodialysis Patients, Motahari Hospital, Gonbad Kavoods

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Introduction. Malnutrition can be estimated using the subjective global assessment (SGA), that has reliability and precision. The study objective was to assess the prevalence of malnutrition among patients on hemodialysis in Motahari Hospital, Gonbad Kavoods by comparing SGA grades with anthropometric and biochemical measurements.

Methods. In this descriptive- analytical study, 48 hemodialysis patients were selected with random sampling. Subjective global assessment, anthropometric (dry weight, height, body mass index, triceps skin fold thickness, mid-arm circumference, mid-arm muscle circumference, and arm muscle area), and biochemical measurements were assessed in all patients and were analyzed with Chi-Square and T- tests and Pearson models.

Results. In this study, 6.3% of patients on hemodialysis were normally nourished, 50% of patients were mildly malnourished, 43.7% were moderately malnourished and no one had severe malnutrition. Pearson correlation coefficients between the malnutrition score and age ($r = +0.34$), years dialysed ($r = +0.33$), and education level ($r = -0.43$) were all significant. There was no correlation between the malnutrition score and sex. Chi-Square test showed significant correlation between SGA score and mid-arm circumference (chi-square = 11.905), calculated mid-arm muscle circumference ($\chi^2=5.088$), the serum sodium concentration (chi-square = 4.83), creatinine clearance (chi-square = 8.504). BUN (chi-square = 9.197), triglyceride (chi-square = 6.429); cholesterol (chi-square = 3.942), phosphorus (chi-square = 5.61), and Ferrous (chi-square = 7.176).

Serum CRP and creatinine were not significantly associated with SGA score.

Conclusion. In this study, no patient had severe malnutrition, and most of them were assigned to the mildly/moderately malnourished rating. On other hand, most of patients were well-nourished. A comparison of SGA grades with biochemical and anthropometric variables indicated that SGA could be used to assess nutritional status in patients on hemodialysis.

P172

The Causes of Hemolytic Uremic Syndrome in Stung Patients With Hemiscorpius Lepturus Scorpion

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Introduction. Hemiscorpius lepturus is the most medically important scorpion in Iran. This scorpion is endemic in Khuzestan province and other southwestern areas of Iran and south of Iraq. The lethality arising from this scorpion is approximately 60 times higher than the average for the remaining venomous scorpion's stings in the region. The prominent and serious feature of the syndrome arising from the envenomation by H. lepturus is the occurrence of disseminated intravascular coagulation (DIC) and microangiopathic hemolytic anemia (MHA) and renal toxicity, which is demonstrated as hemoglobinuria, proteinuria, renal failure, and hemolytic uremic syndrome (HUS). However, the role of ADAMTS-13 (a disintegrin-like and metalloprotease with thrombospondin type 1 motif 13) in the pathogenesis of these findings is unknown as enzyme activity following scorpion sting has never been studied previously.

Methods. We evaluated the causes of HUS in two patients including the levels of C3, C4, CH50, H, and I factors and ADAMTS-13 and ADAMTS-13 antibody.

Results. In both patients SCr and BUN levels gradually rose and the hemoglobin level and platelet count dropped. The lactate dehydrogenase (LDH) level increased to > 4000 IU/L. Blood film at this time showed fragmented erythrocytes and burr cells; Prothrombin time and partial thromboplastin time were in normal range. A clinical diagnosis

of HUS was made. Blood sampling prior to any administration of blood products showed elevated plasma ADAMTS-13 level and ADAMTS-13 auto-antibody. C3, C4, CH 50, H, and I factor were in normal range. Packed cell transfusion and daily plasmapheresis were done and the patients were discharged after about a week with a scar in stung site and near normal laboratory data. After two mo follow up, the SCr and BUN were normal, LDH decreased to normal range and the scar was improved.

Conclusion. The decrease in the VWF-cleaving protease activity can be caused through 2 pathways: destruction of ADAMTS13 by the components of the scorpion venom of the scorpion and / or stimulation of the immune system to produce auto-antibodies against ADAMTS13. We obtained good results with plasma infusion and plasma exchange on treatment of DIC and HUS following scorpion sting; however, plasma exchange with fresh frozen plasma (FFP) or cryosupernatant removes auto-antibodies and replaces deficient ADAMTS-13.

P173

The Difference Between Mean Times of External Use of Onion and Wet Gas on Relieving Acute Urinary Retention in Male Patients Following Cardiac Catheterization

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Introduction. Acute urinary retention (AUR) is a complication of cardiac catheterization and needs to be relieved through urinary catheterization, a procedure that raises the risk of urinary tract infections. Therefore, alternative ways of relieving urinary retention, preferably noninvasive interventions, are of great importance. The aim of the present study was to determine the difference between mean times of external use of onion and wet gas on relieving acute urinary retention in male patients following cardiac catheterization.

Methods. A randomized controlled trial design was used to conduct study. The sample consisted of 62 male patients with AUR following cardiac catheterization. The subjects were allocated to either control or intervention group through Balance

Block Randomization. For intervention group, a gas covered with onion was applied on symphysis pubis area and the same was applied for control group except that the gas was immersed in tepid water (wet gas) before application. The data was collected using information sheet. Elimination of AUR was compared between two groups. Independent t-test was used to test any difference between mean times of two groups.

Results. Relieving time of acute urinary retention in intervention and control group decreased by 58/1% and 71%, respectively. Mean times of elimination of AUR in intervention and control group were 17 of 27, and 16 of 63 min, respectively and there was not any statistically significant difference between two groups.

Conclusions. According to the findings, the researchers recommend nurses to use gas soaked in tepid water as a solution for AUR in male patients following cardiac catheterization.

P174

The Effect of L-Carnitine on Hyperlipidemia in Childhood Nephritic Syndrome

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Introduction. Hyperlipidemia is a major risk factor for atherosclerosis and cardiovascular accidents. Increased plasma lipoproteins in childhood can be a prodrom for athrom formation. Abnormalities in lipoproteins and lipids profile are common in patients with pediatric idiopathic nephrotic syndrome and may contribute to atherosclerosis and cardiovascular accidents in near future in persistent cases. Although lipid lowering agents such as statins have been investigated in adult patients, because of myopathy and growth derangement, their prescription are not recommended in children aged groups. L-carnitin as a major catalyzer in lipid metabolism has been used as oral supplementation in patients on homeodialysis and peritoneal dialysis with beneficial effects on several parameters of lipid metabolism. Till, there isn't any investigation on carnitine effects on lipids profiles of childhood nephrotic syndrome that is our study proposes.

Methods. In this study treatment cases group

included 16 patients in age 2 to 12 old years with steroid resistant nephrotic syndrome that they are receiving prednisolon, cyclosporine and carnitine (25mg/kg/d) in 3 months and control group included 17 matched age and sex patients receiving standard treatment (prednisolon, cyclosporine). In both groups, biochemical parameters like triglyceride, cholesterol, VLDL, LDL, HDL, BUN, creatinin, and serum albumin are measured.

Results. At the end of the study period, L-carnitine treated group showed no significant improvements in the biochemical markers compared with the control group. In each group there was lowering of hyperlipidemia at the end of the study period because of expected effects of immunosuppressive agents on clinic course.

Conclusion. Our study indicates that oral administrations of L-carnitine don't have effects on lipoprotein profile of persistent childhood nephritic syndrome. However higher dosage and longer time period carnitine supplementation needs more investigations.

P175

The Impact of Time and Temperature on the Outcome of Urine Culture in Children with Bag and Midstream Collecting Methods

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Introduction. One of the most limiting factors in laboratory testing in children is the method of collecting and transforming the urine that may cause unwanted changes in the test results. This was our motivation to study the impact of time and temperature on urine culture results in children.

Methods. In this research work, we studied 240 children (121 boys and 119 girls) admitted to laboratory for urine culture which were divided into 2 groups each with 120 patients. In the first group, the urine samples were collected with bag and in the second group, midstream urine was collected. After the routine culture for each sample, the sample was divided in two groups with 60 samples. One group was kept in the environment temperature and the other one in the refrigerator

in 4°C. After 2 and 4 hours, samples were cultured again and the results of culture were compared with each other.

Results. In the group that the samples were kept in the environment temperature, the following results were obtained: In the midstream samples, 6 children had positive culture in zero time (10%), 6 children in 2 hours (10%), and 8 children in 4 hours (13.3%, $P = 0.26$).

In the bag group, 16 children had positive culture in zero time (26.7%), 19 children in 2 hours (31.7%), and 25 children in 4 hours (41.7%) ($P = 0.13$).

For the group in whom the samples were kept in refrigerator, these results have been found: In midstream urine, 3 children had positive culture in zero time (5%), 4 children in 2 hours (6.7%) and 5 children in 4 hours (8.3%, $P = 0.24$). Finally, in the bag group whose samples were kept in refrigerator, 15 children had positive culture in zero time (25%), 15 patients in 2 hours (25%) and 15 children in 4 hours (25%) ($P = 0.13$).

Conclusion. In urine collection with correct methods, when we kept the urine samples for 4 hours, we didn't observe any change in the results of the urine culture.

P176

The Most Prevalent Causes of Urinary Tract Infection and Antibiotic Resistance

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Introduction. Urinary tract infection (UTI) is the most common bacterial infection that can cause important complications such as renal failure and hypertension if not properly diagnosed. Continuous determination of local prevalence of bacterial strains and their antimicrobial resistance is required to prevent unnecessary and ineffective use of antibiotics and drug resistance. The aim of this study was to determine the common bacterial strains causing UTI and antibiotic resistance in 9th of Dey Hospital.

Methods. Midstream urine samples of patients referred to Torbat Heydariye Hospital were analyzed for isolation of bacteria using standard methods. Susceptibility tests were performed by disc diffusion tests using the Kirby- Bauer method.

Results. In the present study, 272 out of 276 patients urine samples had UTI (100000 CFU/mL). The most common isolated bacterial uropathogens were eschrichia coli (74.6%), followed by Klebsiella (10.2%); staphylococcus coagulase negative spp, proteus, pseudomonas, enterobacter and serratia. Eschrichia coli was mostly resistant to co-trimoxazole (57.2%), nalidixic acid (56.8%) and cefalexin (42%). Ceftriaxone and nitrofurantoin were the next in order. The most effective antibiotics for eschrichia coli were amikacin (89.5%), ciprofloxacin (73%) and gentamicin (56%).

Conclusion. This study suggests that in 9th of Dey Hospital, the best choices for empiric treatment of UTI are amikacin, ciprofloxacin and gentamicin. Co-trimoxazole, nalidixic acid and Ceftriaxone are ineffective for treatment of UTI.

P177

The Outcomes of Percutaneously Peritoneal Dialysis Catheter Placement in Comparison With Open Surgical Method in Children

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Introduction. This research was performed to compare the complications and outcomes of percutaneously peritoneal dialysis catheter placement and open surgical method in children.

Methods. This randomized clinical trial study was performed in the pediatric nephrology department in Alzahra hospital, Isfahan, Iran; during 2010 and 2011. Thirty pediatric uremic patients (less than 15 years old) were randomized into two study groups. Fifteen catheters were inserted percutaneously (group A) and 15 catheter were placed surgically (group B). Collected data included age, gender, body mass index, cause of renal failure, duration of procedure, length of hospital admission, and the type of anesthetic drug. The outcomes included mechanical and infectious complications.

Results. There was no significant difference in demographic data, BMI, cause of renal failure and length of hospital admission. Mean time of procedure was longer in group B than group A ($P < 0.001$). Exit site infection, hemoperitoneum,

early peritonitis, early leakage, catheter malposition, and out flow failure were more frequent in group B than group A ($P < 0.001$). There was no significant difference between two groups in hernia and hollow viscous perforation. All of the catheters of group B were inserted with general anesthesia but the catheters of group A were placed with local anesthesia and mild sedation.

Conclusion. The outcomes of percutaneous PDC placement are better than open surgical method and this is less time consuming.

P178

The Role of Cytoskeletal Proteins in Predicting Renal Survival in Primary Focal Segmental Glomerulosclerosis.

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Introduction. More than half of the patients with focal segmental glomerulosclerosis (FSGS) have been reported to progress to end-stage renal disease. Several studies have evaluated the implication of cytoskeletal proteins as prognostic factors for some types of nephrotic syndrome.

However, most of these studies have not been conducted on FSGS. The purpose of this historical cohort study was to evaluate the role of glomerular, tubular and interstitial expression of some cytoskeletal proteins (vimentin, desmin, and α -SMA) in determining renal survival in FSGS children.

Methods. This survey was a historical cohort clinicopathological analysis carried on 31 children with biopsy proven primary FSGS aged 1 to 18 years old. The study was conducted from November 2007 till April 2010 in St. Alzahra hospital Isfahan, Iran. Formalin-fixed, paraffin-embedded kidney biopsy Sections (3 μ m) were selected for immunohistochemical staining. Monoclonal mouse anti-SMA1 antibody (Dako, Clone 1A4, Code M0851), Monoclonal mouse anti-human Vimentin antibody (Dako, Clone V9, code M0725), Monoclonal mouse anti-human Desmin antibody (Dako Clone D 33, code M 0760) were used.

Results. Twenty out of the 31 patients were male (64.5%) and 11 were female (35.5%). The mean duration of follow-up was 46.3 months. In this

study, 16 (59.3%) and 6 (22.2%) cases reached complete and partial remission respectively. After applying multiple regression (Inter model), only response to steroid and the last diastolic blood pressure were predictive variables for the last GFR, ($P < 0.05$). Interstitial fibrosis and tubular atrophy were reported in 42% and 54% of patients respectively. The last mean blood pressure was correlated significantly with the expression of both Vimentin and α -SMA in the interstitium ($P < 0.05$). However, we were not able to demonstrate any cytoskeletal protein expression as an independent predictor of renal survival.

Conclusion. Further studies with larger sample sizes and longer follow up period are needed to determine whether cytoskeletal proteins have prognostic value in FSGS children or not.

P179

The Role of Vitamin E on the Renal Lipofuscin Changes in Diabetic Rats

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Introduction. To investigate the effect of diabetes on kidney and the protective effect of vitamin E (VE) against oxidative damage by diabetes mellitus in the adult rats.

Methods. 24 adult same age rats were divided randomly into three groups: (1) control, (2) diabetic (aloxan induced) group, and (3) treatment (aloxan + VE) group. After 8 weeks, the histopathological and histochemical changes in mesangial glomeroli, as well as the quantity and quality of lipofuscin granules were evaluated. Lipofuscin is the name given to finely granular yellow-brown pigment granular. It is considered one of the aging pigments or product by some of oxidative disease such as diabetes, found in many organs such as liver, kidney, and heart muscles and neuronal cell ganglions.

Results. Microscopic view with hematoxylin-eosin staining showed that the level of lipofuscin was increased in group 2 but in groups 3 was decreased significantly (not significant with control group).

Conclusion. Diabetes mellitus can affect the glomerular structure and renal function by inducing oxidative stress but these damages could be partially reversed by VE treatment.

P180

Treatment of Steroid and Cyclosporine-Resistant Idiopathic Nephrotic Syndrome in Children

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Introduction. Steroid resistant nephrotic syndrome (SRNS) in children carries a significant risk of progression to end stage renal failure (ESRF). Many immunosuppressive drugs are used with variable success rates but the optimal combinations of these agents with the least toxicity remain to be determined.

Methods. We report a two steps protocol adapted in children with SRNS. From initial count of 90 children with INS 37 cases (41.1%) were resistant to steroid therapy.

Results. Renal biopsy showed diffuse mesangial proliferation (DMP) in 11 cases (12.2%), focal segmental glomerulosclerosis (FSGS) in 10 cases (11.1%), and minimal change disease (MCD) in 16 cases (17.8%). Thirty seven SRNS were treated with cyclosporine A (CyA) 5 mg/kg/d in association with prednisolone 1 mg/kg on alternate day for 6 months (first step treatment). Twelve patients (32.4%) went into complete remission and 2 (5.4%) into partial remission (50% reduction of initial proteinuria). The other 23 cases who were steroid and CyA resistant entered a second step treatment with withdrawing steroids, and starting CyA (5 mg/kg/d) in combination with mycophenolate mofetil (MMF) 30 mg/kg/d for 6 months. Complete remission was observed in 11 cases (47.82%) and partial remission in 2 cases (8.7 %).

Conclusion. After this two steps of treatment 27 of 37 children went into total remission. In steroid and CyA resistant INS, the combination of MMF with CyA was able to induce remission in about half of cases without relevant side effects.

P181

Urine Interleukin-8 as a Diagnostic Test for Vesicoureteral Reflux in Children

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Introduction. Vesicoureteral reflux (VUR) is a common finding in children with urinary tract infection (UTI), mostly diagnosed by voiding retrograde cystogram (VCUG). Children with VUR are at higher risk of renal damage with recurrent infections. Detecting VUR and renal scarring currently depends on imaging modalities with interventional invasive diagnostic methods. Noninvasive methods would greatly facilitate diagnosis and also help in identifying VUR in siblings of index cases who should be screened. Various imaging and biochemical methods with different specificity and sensitivity have been presented as substitute diagnostic tool for VCUG to identify VUR. Interleukin-8 (IL-8), a chemokine produced by damaged epithelial cells of the renal tract in response to inflammation, has been shown to increase during acute UTI. We have scarce data considering the cut point of urine IL-8 as a diagnostic method of VUR in children. The objective of this study was to assess the urine levels of IL-8 as a noninvasive marker of VUR in infants in the absence of a recent UTI episode.

Methods. This cross sectional study was conducted on 28 patients with UTI and VUR (group 1), 28 patients with VUR and without UTI (group 2), and 28 healthy children / infants (control group) in St. Alzahra hospital, Isfahan, from January 2009 until March 2010. Urine IL-8 level was measured for all children. The data was analyzed by SPSS software version 17. The t-student test, chi-square, and ANOVA were used as statistical methods.

Results. The mean age of group 1, group 2 and control group were 4.3 ± 2.9 , 4 ± 2.6 and 4 ± 2.1 years respectively, $P > 0.05$. The mean level of IL-8 in group 1 was significantly higher than group 2 and control group 10 ± 14.8 versus 6.5 ± 8.4 , and 2.9 ± 4.5 ; respectively ($P = 0.039$).

Conclusions. Although urinary IL-8 may be helpful in determining high grade VUR, the results of this study showed that the sensitivity, specificity, PPV, and NPV of this marker were not satisfactory in cutoff point of $5 \text{ pg}/\mu\text{mol}$ and other variables must be controlled.

P182

Validation of Persian Version of the Pediatric Quality of Life End-Stage Renal Disease Module version 3 (PedsQLTM) in Iranian Children With ESRD

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Introduction. The absence of a Persian questionnaire to evaluate the quality of life of children with end-stage renal disease (ESRD) motivated us to validate a Persian version of Pediatric Quality of Life End Stage Renal Disease Module version 3. We are the first group in Iran that validated Persian version of Pediatric Quality of Life End Stage Renal Disease Module version 3.

Methods. To evaluate the reliability and feasibility of Persian version of PedsQL ESRD module, we carried on forward-backward translation method after obtaining the permission from the original developer. The study was conducted on ESRD children aged 2 to 18 years from the referral center, St Alzahra hospital, Isfahan, Iran. The children self-report and parent proxy report were filled by 25 patients and 27 of their parents. The data was analyzed by SPSS 18.0 software.

Results. In both children self and parent proxy reports the internal consistency of the total scores were higher than 0.7. Cronbach's Alpha internal consistency values for children self and parent proxy reports were 0.82 and 0.88 respectively. Missing items were less than 5%. Constructive, face and content validity were acceptable. The Persian version of PedsQL ESRD module was feasible.

Conclusion. The Persian version of PedsQL TM End Stage Renal Disease Module version 3 is a suitable, valid and reliable tool to assess HRQoL in Iranian children with ESRD.