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Background Early diagnosis and treatment of vesicoureteral reflux (VUR) means prevention of 25% of cases of chronic renal impairment (CRI) which is due to reflux nephropathy.

Aim of the work This work was planned to correlate the levels of some urinary and serum biomarkers with traditional methods of diagnosis of reflux and reflux nephropathy.

Materials and Methods We evaluated urinary concentrations of IL-8 in 145 children. 105 children of them were selected from those who were diagnosed to have vesicoureteral reflux (study group). The other 40 children were apparently healthy children to serve as normal control (control group).

40 cases of the study group were randomly selected, DEMSA scan was done for them. Basic fibroblast growth factor (b-FGF) was estimated in the serum of these 40 cases.

Results Urinary IL-8 concentrations were significantly higher in study group than in control group. There was a highly significant difference in level of serum b-FGF between those with renal scarring and those without scarring.

Conclusion Urinary IL-8 can be used as a promising diagnostic marker for VUR. Also, it is appropriate to measure serum b-FGF in sera of those with reflux to determine if renal parenchymal damage (scarring) is present and of which grade.

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VESICoureTERAL REFLUX AND URODYNAMIC DYSFUNCTION

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The concept of vesicoureteral reflux (VUR) as a consequence of a congenital anomaly of the vesicoureteral junction have undergone changes owing to the finding that such children may have a lower urinary tract dysfunction, which produces a high intravesical pressure and consequently a predisposition for VUR. We investigated relationship of VUR and urodynamics. The urodynamics was investigated by pressure-flow-EMG study in 132 children with primary VUR and 162 refluxing units. Only 33 (25.0%) patients had normal urodynamic finding. The most frequent pathological finding was overactive bladder (OAB), found in 59 (44.7%) children, followed by dysfunctional voiding (DV) in 25 (18.9%) children. The children with VUR grades I and II had higher percentage of pathological urodynamic findings than children with VUR grades III and IV. OAB was more frequent in children under 5 years of age, with unilateral and lower grades VUR. It was found equally in children with and without uroinfections. DV was more frequent in children older than 5 years, with bilateral VUR, higher grades VUR and uroinfections. The results of our study show that the children with VUR have high incidence of urodynamic disorders and indicate the possible role of urodynamic dysfunction in the pathogenesis of VUR, especially the mild ones. They also indicate the need for incorporating urodynamic investigation in the evaluation of children with VUR.

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URINARY STONE DISEASE IN CHILDREN- A SINGLE CROATIAN CENTER EXPERIENCE

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Urinary stone disease is not so rare in children. The aim of this study was to assess the demographic, clinical and biological characteristics, as well as outcome, of urinary stone disease among Croatian children. We reviewed medical records of 76 children from various parts of Croatia who were diagnosed with urinary stone disease from 2002–2011. The average age (mean) were 9 yr 7 mo (toddlers 7.89%) with approximately equal gender distribution (male 53.95% vs female 46.05%). Family affection was identified in 27 (35.53%) children with the predominance of female transmission. The most stones were made of Ca oxalate dihydrate and monohydrate (75%). Hypercalciuria were detected in 47.37%, mild hyperoxaluria in (13.16%), hypocitraturia in 1.31% and 38.16% remained of idiopathic origin. Urine saturation (EQUIL 2) were above the limits in 47 (61.84%) children, urine volume less than average in 12 (15.79%). For most of the children we recommended increased fluid intake and balanced food nutrition, citrate were administered in 20 (26.32%), thiazides in 10 (13.15%) and aldactone in 1 (1.31%). Spontaneous evacuation were noticed in 51.32%, surgical (operation and endoscopic removal) 11.84%, ESWL in 11 0.84%, spontaneous resolution (ceftriaxone) in 1 (1.31%) and in 13.16% the stone was not removed from urinary tract. The study gave insight in etiology of urinary stone disease in Croatian children. Main pathological factors were hypercalciuria, mild hyperoxaluria and increased urine saturation. Spontaneous evacuation of stones were notified for most of children.

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CYCLOSPORINE A IN THE TREATMENT OF RESISTANT CHILDHOOD NEPHROTIC SYNDROME

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Background In children, idiopathic nephrotic syndrome is primarily treated using corticosteroids. When remission is not achieved, the administration of potent immunosuppressant therapy becomes imperative. Cyclosporine A (CsA) is reportedly associated with a higher incidence of remission in comparison with other immunosuppressive agents. The aim of our study is to evaluate the efficiency of cyclosporin A (CyA) therapy in 11 children treated with resistant nephrotic syndrome.

Methods Eleven children enrolled in this study were all hospitalized with resistant nephrotic syndrome, aged 1 to 11 years (average 5.8 yrs) and included 7 males and 4 females. CyA was given to each patient with dosage of 5 mg/kg/day during the corticosteroid was diminished. The renal biopsy was performed in all patients before the administration of CyA.

Results Eleven children with resistant nephrotic syndrome of different pathological types were treated with CyA, including 3 cases of minimal change nephrotic syndrome (MCNS), 2 cases of mesangioliproliferative glomerulonephritis (MsPGN), 1 case of extra membranous glomerulonephritis (EMGN) and 5 cases of focal segmental glomerular sclerosis (FSGS).

Three patients got complete remission, seven patients developed chronic renal insufficiency and one had no change after four month treatment with CyA. The overall response rate was 27%. Patients with different renal pathological types showed different responses. The FSGS cases showed the lowest rate.

Conclusion CyA has limited efficiency in patients with steroid-resistant nephrotic syndrome. CyA should be used cautiously because of the potential for CyA nephrotoxicity.

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GITELMAN SYNDROME IN A SPANISH GYPSY PAEDIATRIC PATIENT MUTATION INTRON 9 +1G>T

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