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**Early diagnosis of renal scarring in children with vesicoureteral reflux.**

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**Introduction.** It is well known that the vesicoureteral reflux (VUR) is watched in 1-2 % of children's population, and its frequency among the children with an infection of urinary system achieves 70 %. The VUR is bound to the increased risk of pyelonephritis and nephrosclerosis. The nephrosclerosis on the background of VUR is formed in 30-60 % patients and results into development of end-stage chronic renal insufficiency in 25-60 % patients.

**Aim.** The objective of this study was to assess the urine levels of IL-6 and IL-8 as noninvasive markers of VUR and renal scarring (RS) in children.

**Material and Methods.** The objective of this study was to assess the urine levels of IL-6 and IL-8 as noninvasive markers of VUR and renal parenchymal scarring in children. 54 patients from 6 months up to 16 years with III-V degrees of VUR after its endoscopic treatment in a period of clinical-laboratory remission of pyelonephritis were examined. These patients were divided into two groups: 1st group without renal scarring (n=37), 2nd group - with RS (n=17). 16 healthy children were included in control group. Urine IL-6 and IL-8 concentrations were measured with commercially available Vector Best. Renal ultrasound, 99mTc-dimercaptosuccinic acid scintigraphy and voiding cystourethrography were carried out in all patients. Statistical analyses were performed with StatSoft STATISTICA Version 7. Planned clinical trial was obtained for the current study were approved by the Medical Ethics Committee of the Kharkiv National Medical University and conducted in accordance with the guidelines of Helsinki Declaration. All participants and/or their parents gave written informed consent.

**Results.** We have found a significantly higher urine IL-6 and IL-8 level in children with VUR without RS than in children of control group (рк-1=0,0001; рк-2=0,0008). Median urinary IL-6 level in patients with VUR without RS was significantly higher than in patients with VUR and RS and control group (11,50 vs. 5,92 vs. 1,76). Median urinary IL-6 level was significantly lower in patients with VUR and RS than in patients with VUR without RS (р2-1 = 0,011), bat significantly higher than in children of control group (рк-2 = 0,0008). The median urine IL-8 level was significantly higher in patients with VUR without RS than in children with VUR and RS (13,18 vs. 3,42). Median urinary IL-8 level was similar in patients with VUR and RS and control group (рк-2 = 0,5868) and was significantly higher than in children with VUR without RS.

**Conclusions**. In patient with RS confirmed by scintygraphy decreased level of IL-6 and IL-8 in urine were detected. Thus, excretion of above mentioned IL can be used similar dynamics of urine IL-6 and IL-8 level confirmed renal scarring as early marker of renal affection.