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Acta Medica Iranica

2009;47(4) : 219-226

SCINTIGRAPHIC SCREENING IN THE DETECTION OF RENAL SCARRING IN SIBLINGS OF CHILDREN WITH PRIMARY REFLUX

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Abstract:

The correlation of vesicoureteral reflux (VUR), urinary tract infection (UTI) and renal scarring is well known. Several risk factors for renal parenchymal lesions have been reported previously. We determine the incidence of renal parenchymal damage and outcome in the siblings of children with primary VUR. A total of 96 siblings of patients with VUR, were evaluated with direct voiding cystography, 99m-technetium (Tc)-dimercaptosuccinic acid (DMSA) renal scintigraphy and renal ultrasonography (US). Of 96 siblings, 34 were found to have VUR, representing an incidence of 35.4%. The majority of siblings with abnormal DMSA scans were asymptomatic. Parenchymal abnormalities were determined by DMSA in 23 (69.6%) of the 33 siblings studied (37 of 46 refluxing renal units or 80.4% $P < 0.001$). Of these, 10 (30.3%) were normal. Renal damage was mild, moderate and severe in 30.3%, 54.5%, and 15.2% of children, respectively. Renal US in 34 siblings with VUR was normal in 27 (79.4%) and abnormal in 7 (20.5%). Of the 33 siblings with VUR who had both renal cortical scintigraphy and renal US, DMSA and US findings were abnormal in 23 and 7 of the siblings, respectively. Parenchymal abnormalities on scintigraphy were associated with mild-to-moderate reflux in 51.5% and severe reflux in 72.7% renal units. This study confirms a significant overall incidence of renal parenchymal damage in 69.6% and VUR in 35.4% of siblings studied. Most importantly, the lack of symptoms within the siblings group can not be used as a reason to avoid screening process. DMSA scintigraphy of asymptomatic siblings appears to be beneficial in preventing renal injury.

Keywords:

[DMSA scintigraphy](#)

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