

## 급성 열성 요로감염에서 감염의 중등도가 신장겉질 결손형성에 미치는 중요도

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### The Importance of Severity of UTI as the Factors Predisposing the Cortical Defects at Acute Stage of Febrile UTI

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**Introduction:** As diagnostic work-up of pediatric urinary tract infection (UTI) Technetium-99m dimercaptosuccinic acid scintigraphy(DMSA) is used to assess cortical inflammation at acute stage or renal scarring 6 to 12 months later. Previous few studies suggested age, gender previous renal scarring, vesic o-ureteral reflux (VUR), and duration of fever as factors predisposing acute stage cortical defects. Since cortical defects at acute stage may develop to renal scar, we studied the factors predisposing the cortical defects at acute stage of febrile UTI.

**Methods:** Children who were admitted to the pediatric department of our institution for their first episode of febrile UTI were studied. Only those with positive urine culture result for Escherichia coil and completed diagnostic work-up of kidney ultrasonography (USG) and DMSA were included and those with alleged renal structural anomalies were excluded. USG was done within a few days and DMSA within the first 10 days of the diagnosis of UTI. Voiding Cystourethrography (VCUG) was performed in 33 cases afterwards. Clinical findings such as CRP, sex, age, duration of fever, WBC count on admission were reviewed retrospectively.

**Results:** In total, 73 patients (M:F=20:53, median age 6 months [Range 0-66 months]) were reviewed. Renal cortical defect was noted in 33 patients (45%). Compared to those without cortical defect, those with cortical defects had longer duration of fever (Mean 6.24 days vs. 4.15 days,  $p=0.001$ ) and higher CPR (8.84 vs. 3.96,  $p=0.001$ ). Abnormal findings of USG such as focal increased echogenicity or decreased perfusion and renal pelvic wall thickening ( $p=0.023$ ) were correlated with cortical defect on DMSA (odds ratio 4.6), while gender, presence of VUR ( $n=11$ ,  $p=0.618$ ), or antibiotics resistance of the causative organism ( $n=11$ ,  $p=0.986$ ) was not statistically significant.

**Conclusion:** Our study confirmed the clinical impression that severity of UTI, indicated by duration of fever and CRP, was correlated to development acute renal cortical defect of DMSA.

**Key Words:** 신장겉질결손

The cortical defects