Impact of Videourodynamics on Children with Febrile Urinary Tract Infection (f-UTI)

Introduction and Objective: We investigated the value of videourodynamics in children with a history of f-UTI.
Materials and Methods: A total of 33 children, who had a history of f-UTI and undertook videourodynamics, were enrolled in the present study. The children, who were >10 years old and had a mechanical obstruction or neurological disorders, were excluded. Gender was 19 boys and 14 girls and median age at f-UTI was 5.5 months old. Regarding videourodynamics, we investigated vesicoureteral reflux (VUR) and urodynamic parameters. Urodynamic parameters included bladder capacity (BC), incidence of detrusor overactivity (DO), intermittent contraction of the urethral sphincter (IC-US) and high voiding pressure (HVP). HVP was defined as >100 cmH_2O in boys and >50 cmH_2O in girls. DMSA scintigraphy was performed at >3 months after f-UTI to investigate renal scarring.
Results: VUR was identified in 15 children (45%). During filling phase, abnormality of BC was identified in 13 children (39%), and DO was seen in 10 (30%). In voiding function, IC-US and HVP were seen in 11 (33%) and 6 (18%), respectively. Focused on 18 children who did not have VUR, abnormality of BC and DO were seen in 8 (44%) and 4 (22%), respectively. Regarding abnormality of voiding function such as IC-US and HVP, around 30% of children were identified. So, LUT dysfunction was identified in 13 children (72%) who did not have VUR, which could be a main reason of f-UTI. DMSA scintigraphy was performed in 27 children and renal scarring was identified in 11 children (41%) and 13 kidneys (24%). Ratio of gender was not different between children with and without renal scarring. However, renal scarring was seen significantly more in children with VUR, especially high grade VUR. So, VUR was a risk factor in renal scarring. Regarding LUT function, although DO was seen slightly more in children with renal scarring, there was no significant difference in urodynamic parameters between children with and without renal scarring.
Conclusions: LUT dysfunction was seen in children with a history of f-UTI. In mechanisms of renal scarring, there was a relation to VUR, but not LUT dysfunction.