

## URODYNAMIC PARAMETERS CONTRIBUTED TO VESICoureTERAL REFLUX IN 58 CHILDREN

### Hypothesis / aims of study

It is well known that 40%-60% of children with vesicoureteral reflux (VUR) appear lower urinary tract symptoms, and the relationship between children with VUR and those with voiding dysfunction has been reported. This study investigated the contribution of urodynamic parameters to VUR providing clinical reference for the diagnosis and treatment of children with VUR.

### Study design, materials and methods

This study included 58 cases (boys 38, girls 20, aged from 4 to 12 y, average  $6.55\pm 3.71$  y) who had diagnosed with VUR as VUR group (group I), and 60 normal children (boys 33, girls 27, aged from 4 to 12 y, average of  $7.66\pm 3.82$  y) as control group (group II). All children with VUR was classified into 3 categories, based on VCUG, as mild (grade I, n=15), moderate (grades II, n=14 and III, n=19) and severe (grades IV, n=23 and V, n=16). The urodynamic parameters including maximum flow rate (MFR), post voiding residual urine volume (PVR), maximum detrusor pressure ( $P_{det,maxi}$ ), maximum bladder capacity (MBC) and bladder compliance (BC) are recorded.

### Results

MFR and MBC in VUR group were significant lower than those in the control group [( $6.81\pm 6.26$ ) ml/s vs ( $16.10\pm 6.69$ ) ml/s, ( $138.45\pm 73.92$ ) ml vs ( $285.52\pm 107.46$ ) ml,  $P<0.01$ ], and PVR was higher than that in the control group [( $95.94\pm 103.44$ ) ml vs ( $9.59\pm 13.87$ ) ml,  $P<0.01$ ]. There is no significant difference of  $P_{det,maxi}$  between the two groups. The parameters between boys and girls in VUR group had no statistical significance ( $P>0.05$ ). MBC in mild VUR group (15 cases), moderate VUR group (33 cases), and severe VUR group (39 cases) had no statistical significance ( $P>0.05$ ). BC less than 20ml/cm H<sub>2</sub>O is defined with poor compliance. There are 12 cases (80% or 12/15) in mild VUR group with normal BC, but 8 cases (36.4% or 12/33) in moderate and 6 cases in severe VUR group (23.1% or 9/39), the difference is significant ( $P<0.05$ ).

### Concluding message

MFR and MBC decrease, PVR increases and poor BC may contribute to VUR in children.

### References

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### Disclosures

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