

## VESICoureTERAL REFLUX RISK IN PATIENTS WITH NEURAL TUBE DEFECTS

### Hypothesis / aims of study

Urologic complications leading to chronic renal failure are one of the most important causes of death in patients with neural tube defects (NTD). Vesicoureteral reflux (VUR) is a common finding in this type of population. It is the purpose of this study to establish the risk of developing VUR in patients with NTD.

### Study design, materials and methods

We performed a retrospective cohort study. Patients were selected from our NTD Clinic database. We included male or female patients between 0 and 25 years old with the diagnosis of lumbosacral myelomeningocele. Only patients who had both a voiding cystourethrogram (VCUG) and an urodynamic study were selected.

### Results

We have registered a total of 465 patients in our NTD Clinic database. Only 146 patients had access to a VCUG and urodynamic evaluation. VUR was diagnosed in 33 patients. There was a major prevalence of high-grade reflux (IV-V). We grouped the urodynamic findings in 4 clusters: Group I (Pdet > 30 cmH<sub>2</sub>O/ Pura > Pdet), Group II (Pdet > 30 cmH<sub>2</sub>O/ Pura < Pdet), Group III (Pdet < 30 cmH<sub>2</sub>O/ Pura > Pdet), Group IV (Pdet < 30 cmH<sub>2</sub>O/ Pura < Pdet). All pressures were recorded at maximal bladder capacity according to age.

100 patients were classified in Group I (25 (25 %) had VUR). 20 patients were classified in Group II (3 (15 %) had VUR). 9 patients were classified in Group III (2 (22%) had VUR). And 17 patients were classified in group IV (3 (17.6 %) had VUR).

### Interpretation of results

Group I patients had 47 % more probability to develop VUR than patients in the other groups.

Regardless of Pdet, patients with high Pura (>Pdet) have 50 % more risk to develop VUR than patients with low Pura (<Pdet).

Regardless of Pura patients with high Pdet (> 30 cmH<sub>2</sub>O) have 21 % more risk to develop VUR than patients with low Pdet (< 30 cmH<sub>2</sub>O).

### Concluding message

Myelomeningocele patients have a greater risk to develop VUR. Even though our series, due to financial reasons was narrowed from 465 patients to 146 patients, we estimated a 22 % prevalence. Patients who develop a hypertonic bladder in conjunction with high urethral sphincter pressures have the greatest risk to develop VUR. We also concluded that Pura, regardless of Pdet is a major determinant for the appearance of VUR.

### References

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### Disclosures

**Funding:** We have no potential conflicts of interest relevant to this abstract **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Comisión de Ética del Hospital Universitario de la Universidad Autónoma de Nuevo León **Helsinki:** Yes **Informed Consent:** Yes