

TREATMENT OF VESICoureTERAL REFLUX IN NEUROGENIC BLADDER BY ENDOSCOPIC INJECTION OF BULKING AGENTS

Hypothesis / aims of study

Endoscopic treatment with bulking agents has become the gold standard therapy for vesicoureteral reflux (VUR) (1,2). We assessed the outcome of this therapy in adults with neurogenic bladder (NB).

Study design, materials and methods

Nineteen patients (16 males and 3 females, mean age 32 ± 6.2 years) were recruited in 4 centres.

NB was due to spinal cord injury (SCI) in 74% of cases and to spina bifida in 26%; the same mean grade of reflux (2.8) was present in the 2 groups. Fifteen subjects (79%) had an overactive NB - 9 of them with dyssinergia -, 84% voided by clean intermittent catheterization (CIC) and 79% were treated with anticholinergics and/or detrusorial injections of botulinum toxin A. The VUR was diagnosed by videourodynamics in 53% of patients (pts).

The VUR, detected in 23 ureteral units (UU), was mainly monolateral (79%) and passive (53%); the degree was 1-2[^] in 31,6% UU, 3[^] in 52,6% and 4[^] in 15,8%. In 2 pts a monolateral, passive and 3[^] grade VUR was relapsed to the surgical correction according to the Cohen technique; in another case the VUR concerned an ureteral stump.

The sting technique was mainly used (21 UU); in 1 bilateral VUR the Hydrodistention Implantation Technique was adopted. The bulking agents were Deflux (58.5% UU), Coaptite (26.5% UU), Durasphere (10% UU) and Vantris (5% UU) at the mean dose of 1.03 ± 0.36 ml. The median follow-up was 36 ± 9.9 months.

Results

The success rate was 69.6% with 16/23 refluxes eliminated. In 7 UU (30.4%) VUR downgraded to 1[^]-2[^] degree. In 37% of pts were necessary additional therapies, especially detrusorial injections of botulinum toxin A. No complications were observed.

In 7 UU (30.4%) the endoscopic treatment was repeated within 1 year at a mean time of 8.6 months (range 6-12).

A lower success rate was observed in high degree VUR (reflux of 1[^]-2[^] grade cured in 100% of UU, 3[^] grade cured in 70% and 4[^] grade cured in 33%), in congenital NB (40% VUR cured in spina bifida against 78.6% in SCI) and in patients who didn't void by CIC (66% cured against 75% in pts in CIC).

Interpretation of results

The endoscopic subureteral injection of bulking agents is simple, safe and has a good success rate – about 70% - in adults with NB.

Such therapy is inseparable from the adequate management of the bladder dysfunction and infact the best results have just been reported in low grade VUR in pts who voided by CIC.

We observed a scarce use of non-biodegradable agents (5%) and reflux recurrences in 30% of cases. A more extensive use of non-biodegradable agents would be opportune, especially in passive VURs (3) whereas the absorbable materials could maintain an interlocutory role awaiting the outcome of treatments for the bladder dysfunction.

Concluding message

Bulking agents are safe and effective in the treatment of VUR in adults with NB.

VUR relapse is quite common (30%) with biodegradable agents so that a greater use of non-biodegradable agents is suggested.

As expected, the worst results have been reported in case of high degree VUR.

References

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