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Title (type in CAPITAL LETTERS): **ANTIREFLUX IMPLANTATION OF MITROFANOFF NEOURETHRA TO THE BLADDER: IS IT NECESSARY?**

Aims of study: Various antireflux techniques have been described in the application of the Mitrofanoff principle with different types of tapered intestine or bladder wall, in order to establish continence. The aim of this study is to determine whether an antirfluxing implantation to the bladder is necessary to establish continence.

Materials: We studied two groups of patients who underwent a Mitrofanoff vesicostomy during a period of 3-60 months. Group A consisted of 8 patients (6 males and 2 females), aged between 16 – 62 years , who were submitted to a Mitrofanoff procedure with an antireflux technique. Tapered intestine was used in 5, while bladder wall was applied in 3 patients. Group B consisted of 10 patients (7 males and 3 females), aged between 14-58 years, who were submitted to a Mitrofanoff procedure without an antireflux technique. Tapered intestine was used in 6, while bladder wall was applied in 4 patients. Follow-up, 4 months postoperatively, included evaluation of the patient's status, physical examination, urine examination and culture, and, finally, a combination of cystometry and profilometry, in order to determine the pressures developing in the neourethral lumen, either with an empty or with a full bladder.

Results: All patients remained continent on clean intermittent catheterizations, with continence intervals longer than 4 hours. The results were reproducible on follow-up.

In group A patients, continence was attained at volumes as high as 350-640 ml with detrusor pressures lower than 20 cmH2O. Functional length of the neourethra ranged between 2,2 and 5,2 cm with an empty bladder (mean: 3,4) and 3,6-6cm with a full bladder (mean: 4,5cm). Maximum urethral pressure ranged between 8-15 cmH2O (mean: 11 cmH2O) with an empty bladder, while, at maximum cystometric capacity, it raised to 15-25 cmH2O (mean: 17 cmH2O).

In group B patients, continence was attained at volumes as high as 320-700 ml with detrusor pressures lower than 25 cmH2O. Functional length of the neourethra ranged between 1,8 and 4,8 cm with an empty bladder (mean: 3,1 cm) and 2,8-5cm with a full bladder (mean: 4,2cm). Maximum urethral pressure ranged between 5-14 cmH2O (mean: 9 cmH2O) with an empty bladder, while, at maximum cystometric capacity, it raised to 13-23 cmH2O (mean: 16 cmH2O).

Rises in the intra-abdominal pressure were equally transmitted to the bladder and the neourethral lumen. Three false passages occurred during self- catheterizations in group A patients. Hematuria and difficulties in bladder emptying were also noticed in patients with antireflux Mitrofanoff procedures. No major adverse events were noticed in group B patients.

Conclusions: Antireflux implantation to the bladder, although a main technical characteristic in the Mitrofanoff principle, doesn't appear to be as important in the maintenance of postoperative continence, since both groups of patients had similar subjective and clinical results, while urodynamic evaluation showed no statistically significant differences in functional urethral length and in intraluminal pressures. However, in freely refluxing patients, self-catheterizations were easier to perform and with fewer adverse events.