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COMPARATIVE OUTCOMES OF SLING REVISION TYPES IN PATIENTS WITH OBSTRUCTIVE SUBURETHRAL SLINGS

Hypothesis / aims of study

To compare outcomes of 2 sling revision types (division versus partial excision) in patients with prior sub-urethral sling placement for stress urinary incontinence (SUI).

Study design, materials and methods

We conducted a retrospective cohort study comparing these 2 approaches. Women who underwent sling revision secondary to bladder outlet obstruction between January 2009 and July 2010 were included. We defined division as cutting the middle of the sling right under the urethra (Group I). We defined partial excision as removal of 0.5 to 1 cm of the central portion of the sling (Group II). Primary outcome was recurrence of SUI in both groups. Secondary outcomes were resolution of voiding and storage urinary symptoms, improvement in post void residuals (PVR). Statistical analysis was performed using SPSS 18. Chi-square tests and independent *t*-test were used as appropriate.

Results

Analysis included 26 patients (10 in Group I and 16 in Group II). There were no differences in age, BMI, parity, hormone replacement therapy, and menopausal status between both groups. The type of original sling was similar (4 TOT/6 TVT in Group I and 7 TOT/9 TVT in Group II, p= 0.59). For those who had urodynamics prior to sling placement, 14 % (1/7) versus 30 % (3/10) of Group I and II respectively had idiopathic detrusor overactivity (p=0.45). The surgical interval between the sling placement and sling revision date was similar between groups (248 days for group I versus 329 days for group II (p=0.71).Mean follow up was after sling release was longer in Group I than Group II (35 weeks versus 12 weeks; p=0.02).
Recurrence of pure SUI was 20 % (2/10) in Group I compared to 33 % (5/16) in Group 2 (p=0.16). Development of MUI occurred in 0 %(0/10) of Group I and 13 %(2/16; 1 *De novo*, 1 unknown status before sling) of Group II (p=0.16); Urge urinary incontinence occurred in 40 % (4/10; 2 *De novo*, 2 *persistent*) and 7 % (1/16; persistent) of Group II (p=0.16). Storage symptoms improved in 50 % of group I compared to 33 % in group II, and resolved in 40 % of Group I compared to 47% in Group II (p=0.65). Dysfunctional voiding symptoms improved in 60 % of Group I compared to 40 % in Group II, and resolved in 40 % of Group I compared to 60% in Group II (p=0.43). The mean PVR before sling placement was lower in Group I compared to Group II (49 ml vs. 94 ml; p=0.49).The mixed model ANOVA (group x time) revealed mean PVR was significantly higher in Group I; 398 ml compared to Group II 220 ml (p= 0.03) right before sling revision, as well as also higher 83 ml for Group I versus 12 ml for Group II (p=0.01) after the sling revision.

Interpretation of results

The overall recurrence of SUI after sling revision was 26.5 %, and did not differ between both methods; comparable to the rates previously reported 0 to 39 % [1]. Both groups showed resolution and improvement of their storage and voiding symptoms after revision, with overall reduction and resolution of symptoms in 46.2 % of the whole cohort. This was lower than the large series by Carr and Webster, which showed a successful outcome with complete resolution of symptoms or significant improvement in 73% of cases when sling incision done vaginally [2].

Concluding message

This study suggests that both sling revision methods are comparable regarding the recurrence of SUI, and both resulted in significant decrease of the PVR after release. Subsequent reduction of both storage and voiding symptoms was observed in both methods.

References

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2. Carr LK, Webster GD. Voiding dysfunction following incontinence surgery: diagnosis and treatment with retropubic or vaginal urethrolysis. J Urol. 1997 Mar;157(3):821-3.

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