514

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VENTRAL-ONLAY BUCCAL MUCOSA GRAFT SUBSTITUTION URETHROPLASTY FOR RECURRENT URETHRAL STRICTURE IN FEMALES: MEDIUM TERM OUTCOMES

Hypothesis / aims of study

Urethral stricture in females (FUS) has traditionally been managed with endoscopic treatment, with or without intermittent self-catheterisation. Studies suggests this is effective in < 50% of cases. Furthermore, urethral pain can limit the ability of women to self-catheterise. Relatively high success rates at medium-term follow up has led to substitution urethroplasty becoming reasonably established as the gold-standard treatment. It is particularly indicated in women who have recurrent urethral stricture, refractory to endoscopic management and those who cannot self-catheterise. Various substitution urethroplasty procedures have been described in the literature and there is currently no consensus on the optimal technique.

To our knowledge, this is the first case series describing the medium-term outcomes of ventral-onlay buccal mucosa graft substitution urethroplasty (VOBMGSU) in treating FUS.

Study design, materials and methods

We reviewed a prospectively collated database of urethroplasties performed at our tertiary institution for women with urethral stricture. Data was collected on all woment who underwent VOBMGSU by a single surgeon since June 2012, and who had a minimum follow up of 6 months (median 21.5, range 6-51). Stricture was diagnosed on voiding video urodynamics as a Pdet.Qmax > 2.2Qmax + 5 as per the Solomon-Greenwell nomogram associated with evidence of urethral ballooning proximal to a portion of narrowed urethra. Women who couldn't void with pressure lines in-situ underwent cystourethroscopy. All stricture lengths were accepted.

22 women (median age 50 years; range 34-72) were identified. All women who underwent VOBMGSU had a BMI < 35 at the time of surgery and adequate fitness for general anaesthesia. All stricture lengths were accepted.

Data were analysed for stricture recurrence, change in median peak free flow rate (Qmax), median post-void residual volumes (PVR) and complications including SUI. Statistical analysis was performed with the Wilcoxon signed rank test, Students T-Test and Mann-Whitney U Test.

Results

Cure was achieved in 21/22 (95%) women. Median Qmax significantly improved from 7 ml/s (range 3.5-11.2) to 18 ml/s (range 5-37) ($p < 0.05$). Median PVR significantly reduced from 100mls (range 0-300) to 15 mls (range 0-150) ($p < 0.05$). Short and longer-term complication rates were low. Other than the treatment failure there were no Clavien-Dindo complications > grade 1. One patient developed mild de novo stress urinary incontinence, which settled with conservative measures by 6 months.

	Pre-VOBMGSU	Post-VOBMGSU
Median Qmax (range) (mls/s)	7 (3.5-11.2)	18 (5-37)
Median PVR (range) (mls)	100 (0-300)	15 (0-150)

Table 1. Comparison between pre and post operative secondary outcome measures

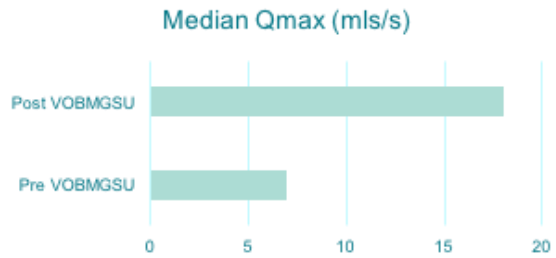

Figure 1. Graph showing the difference in pre and post operative median peak free flow rates

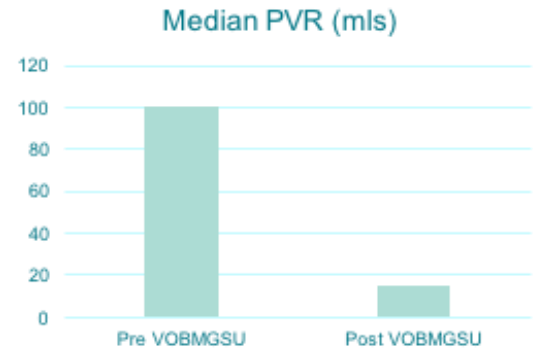

Figure 2. Graph showing the change in pre and post operative median post void residual volumes

Interpretation of results

Staistically significant improvement in post-operative Qmax, with associated significant decrease in PVRs, at almost 2 years follow-up indicates, that in the medium-term at least, VOBMGSU is an effective treatment for urethral stricture. The one case of restricture involved a woman who had previously undergone simultaneous excision of a circumferential urethral diverticulum and 2 paraurethral cysts. We believe our low rate of de novo SUI, which was mild and self-limiting is due to our ventral stricturotomy technique preserving the urethral sphincter mechanism by incising only through the ventral deficiency.

Limitations of this study include small numbers and the medium length follow-up period. There is also a lack of patient reported outcomes.

Concluding message

Medium term results indicate that in appropriately skilled hands, VOBMGSU is an effective treatment for recurrent female urethral stricture refractory to endoscopic intervention, with a low complication rate and high rates of maintenance of continence, and can avoid the need for repeat procedures commonly necessary after traditional endoscopic management. Further evaluation with patient reported outcomes and longer term follow-up is planned.

Disclosures

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