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Hypothesis / aims of study

Manegement of intractable anterior urethral stricture/rupture poses a continuing urological challenge. Various surgical techniques are being used to repair difficult cases of urethral stricture. Urethral reconstruction with a graft to substitute the urethral mucosa have been described, especially, vascularized penile foreskin flap (VPFP) and avascular buccal mucosa graft (BMG) are frequently used as excellent ones. We present our experiences of urethroplasty for the male patients with long anterior urethral stricture using VPFP and/or BMG.

Study design, materials and methods

From March 2005 to December 2012, 10 male patients (mean age 46.8:, range: 18-72) with anterior urethral stricture underwent urethroplasty. The etiology of strictures were external trauma(5), iatrogenic(2), sequelae of hypospadias surgery(1), idiopathic(1), re-operation(1). Sites of strictures were penile urethra(4), bulbur urethra(4), penile and bulbur urethra(1). Mean length of stricture was 3.4(2-5)cm, All cases except one were performed one-stage procedures. 5 patients were treated with dorsal onlay of BMG(figure 1), 2 were with dorsal and ventral onlay. 2 cases underwent combined urethroplasty using dorsal BMG onlay and ventral placement of VPFP for complete urethral rupture(figure 2). A recurrence case with failed previous urethoplasty using BMG were placed with tubed penile skin.

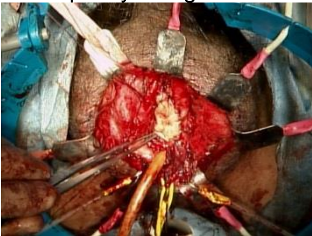

Figure 1: Dorsal onlay of buccal mucosa graft

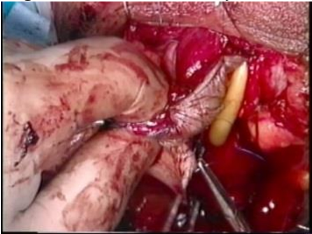

Figure 2 : Combined urethroplasty using VPFP and BMG.

Results

The overall results were 80% successful with a mean follow up period 38.6(range 3-101) months. There were 2 recurrences who required other treatments. One case developed fistula with graft necrosis who was needed to be managed by cystostomy, another was performed second urethroplasty using PSG(figure 3). Other 8 cases had no long-term complications and did not need dilation or catheterization.

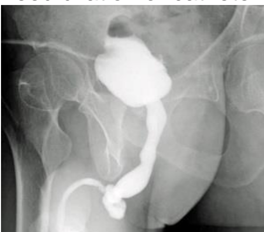

Figure 3: Voiding cystography after second uretheroplasty using VPFP after BMG failure.

Interpretation of results

Different types of surgery have been described in urethral reconstruction with several tissues and substitutes. In the past decade, BMG has become the favoured tissue compared to the penile skin. Additionally, graft placement(ventral or dorsal) has been mentioned in some literatures. We have experienced 10 cases of anterior urethral strictures which were several variables including length, site, previous treatment. We have performed mainly one-stage urethroplasty with BMG dorsal onlay because of reported high successful rates. However, combination surgery was necessary especially in case wih complete urethral rupture. Strategy of surgery should be considered before reconstructive operation for interactive urethral stricture.

Concluding message

There are numerous variations of urethroplasty technique for urethral stricture. More randomised trials and meta-analysis are needed to choose the best procedure in future.

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Disclosures
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