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One-stage scrotal island flap urethroplasty

(Technique and Results)

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INTRODUCTION

Several, one-stage urethroplasty operations are now available for the treatment of intractable bulbar urethral strictures (Kishev, 1971; Leadbetter, 1960; Orandi, 1972). Devine and Horton (1963) used a full thickness skin graft to perform urethroplasty. Blandy and Singh (1975) used a posteriorly based scrotal flap in one stage to treat urethral strictures.

Since 1979, I have been using a simple, one stage procedure using a scrotal island flap for bulbar urethral strictures, uncontrollable by intermittent dilatation or urethrotomy, long strictures and strictures complicated by fistulae. The technique has been used in 12 cases with the follow-up of five months to three and a half years, and has yielded excellent results.

Technique (*Figs.* 1-3):

With the patient in lithotomy, 1:100,000 adrenaline is infiltrated in the perineum around the line of incision. Stricture and normal urethra, distal and proximal to the stricture, are opened by a vertical incision in the skin of the perineum. The upper end of the incision is forked and extended into scrotal skin to make an island of vertical elliptical strip of skin about the length

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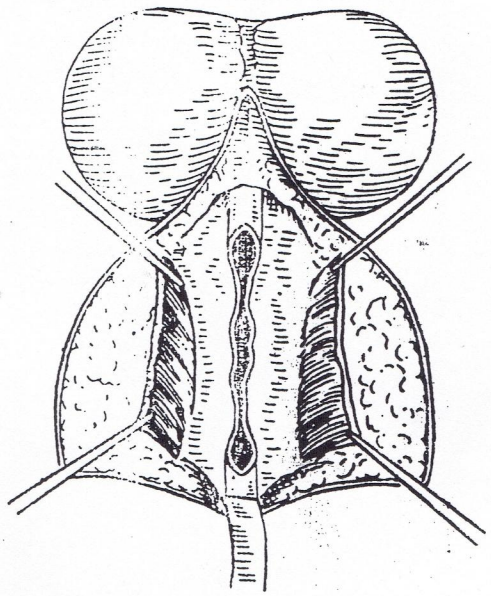

FIG. 1: Stricture laid open by a vertifical perineal incision.

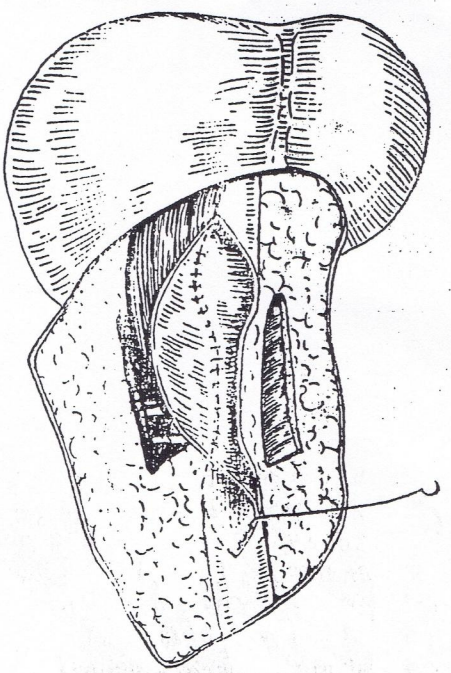

FIG. 2: Strip of skin being attached to the urethra.

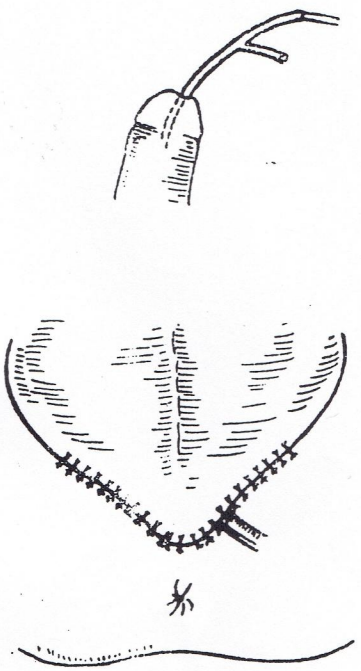

FIG. 3: Transverse wound closure.

of the opened urethra. The skin on all sides of the strip is mobilized. The strip of skin still derives good blood supply from the scrotal septum and dartos.

The lower end of the strip of skin is stitched to the distal end of the opened urethra. When the scrotum is allowed to fall down, the upper end of this strip of skin can be easily stitched to the proximal end of the opened urethra. Margins of the strip of skin are stitched to the margins of opened urethra. We use 3/0 chromic cat gut continuous stitches. For the deep posterior stitches we find it convenient to use the Turner-Warwick needle to apply three interrupted stitches, reaching just distal to veru montanum. After the patch is stitched on one side, a 14F Foley latex catheter is left indwelling and then the other is stitched on the flap. Scrotal skin is stitched to the perineal skin completely after bringing out a corrugated rubber drain from one end.

RESULTS

Twelve cases were treated by this technique. Of these, one was traumatic, one was the result of an indwelling catheter and 10 cases were gonococcal strictures (Table I). All cases had bulbar stricture of 3 cm or more in length. Previous procedures are listed in Table I.

TABLE I
Previous operation/procedure

Previous operations	No. of cases
Dilatations	12
Ext. urethrotomy	2
Excision of fistulae	2
Suprapubic cystostomy	2

The patients have been followed for a period of five months to three and a half years. Urethrograms, urethroscopy or calibration was done in these cases at three months, six months and subsequently as indicated.

As regards the early and late post-operative complications, in none of our cases has there been a fistula formation or recurrence of stricture. However, in the early post-operative period, a temporary leakage of urine occurred in one case which stopped spontaneously. Haematoma formed in one case which was drained and 3 cases had mild sepsis. Four cases complained of pooling of urine in the pouch and four cases felt a 'wet scrotum' after micturition. We have not seen any 'hair ball' formation in any of the cases at urethroscopy, possibly because the midline scrotal skin we use is the least hairy part of the scrotum. No subsequent operation or procedure has been done in any of the cases and all the patients are happy with their treatment.

DISCUSSION

Two-stage procedures continue to be popular for the treatment of strictures of posterior urethra, mainly because one-stage procedures available are difficult to perform and are associated with a high recurrent cture rate. This technique is simple and has yielded very good results in our hands. We did not have a recurrent stricture or restenosis in any of our cases. We have not had a single case of 'hair ball' or urethral stone formation, because the midline skin of the scrotum is normally least hairy.

SUMMARY

Twelve cases of perineal urethral strictures were treated by a one stage scrotum island flap urethroplasty, using an island of midline scrotal skin. The cases have been followed-up from five months upto three and a half years and none of them has developed a restricture or fistula, and none has required a subsequent operation or other procedure.

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