

A Transposed Scrotal Flap in Hypospadias Repair

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Scrotum is an area of lax skin in close proximity to a hypospadias defect. It has been used by a number of workers, who have transferred scrotal skin in two stages to cover urethral tube made out of penile skin (Cecil, 1932; Blair and Byars, 1938; Smith, 1938; Culp, 1951; Culp, 1959 and Fraser, 1964).

In this presentation it is proposed to describe our experiences with the use of a transposed scrotal flap to cover the urethral tube. Besides other advantages, this saves a stage as compared to the conventional methods using scrotal skin.

This transposed scrotal flap has been used under two different circumstances. Firstly, it has been used to cover a penoscrotal fistula, and secondly in a penoscrotal hypospadias to cover the proximal part of the urethral tube. It is at the peno-scrotal junction that considerable tension is encountered in approximating the covering layer.

Methods & Material

This flap has been used in sixteen patients so far. In nine patients this was used to cover a peno-scrotal fistula. In the other seven patients it was used as a primary procedure in a penoscrotal hypospadias where the preputial hood was found to be inadequate to provide a complete covering. In the nine patients with post-operative fistulae, the size of the fistula varied from 0.5

cms to 2 cms in length (Table I).

Table I

Total No. of cases	16
(i) Repair of Hypospadias	7
(ii) Post Operative fistulae	9
Size 0.5 c.m	5
1 c.m	3
2 c.m	1

Technique

The repair consists of the following three steps :

- (i) Perineal urethrostomy for diversion of urine.
- (ii) Construction of urethral tube or closure of fistula lining by a 4-0 pull out monofilament nylon suture.
- (iii) Transposition of scrotal flap.

In a post-operative fistula, after closure of the lining a scrotal flap is designed with the base proximally (Fig 1). The length and breadth of the flap are equal. This flap is then turned through ninety degrees, fitted into the defect and sutured in place (Fig 3). The scrotal defect is easily closed, and the two suture lines do not overlap over the fistula.

In patients with penoscrotal hypospadias, chordee correction by excision and Z-plasties is done as the first stage. In the

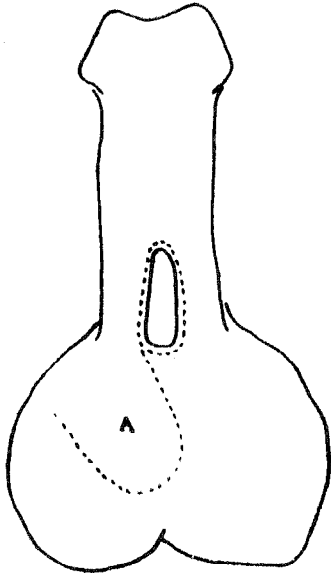


Fig. 1—Line drawing showing the designed scrotal flap (A) in a penoscrotal fistula.



Fig. 2—Pre-operative photograph showing a penoscrotal fistula and a proposed scrotal flap.

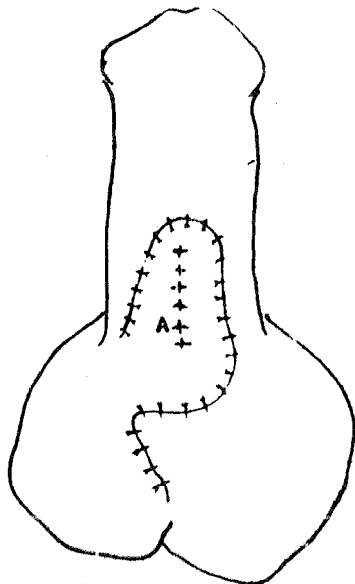


Fig. 3—Line drawing showing the transposed scrotal flap (A). Note that two suture lines do not overlap.



Fig. 4—Postoperative photograph of same patient (Fig. 2). Fistula closed and tube covered with scrotal flap.

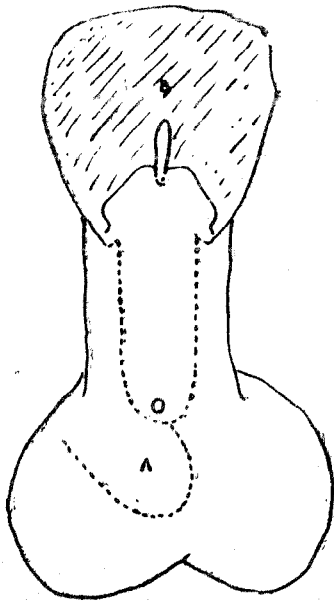


Fig. 5—Line drawing showing the designed scrotal flap (A), in a penoscrotal hypospadias. (B) is the opened out preputial hood.



Fig. 6—Pre-operative photograph showing a penoscrotal hypospadias and proposed scrotal flap.

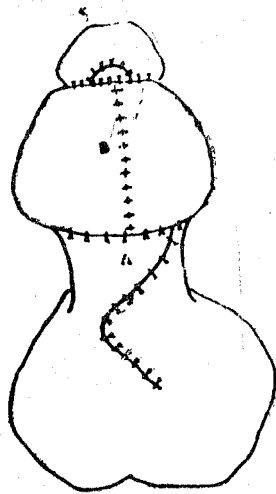


Fig. 7—Line drawing showing the appearance after transposition of scrotal flap and bringing the preputial hood down. The two suture lines cross at one place i.e. at the junction of preputial hood and scrotal flap.



Fig. 8—Post-operative photograph of same patient. (Fig. 6) Tube covered with preputial hood and with scrotal flap.

second stage the prepuce is brought down (Ombredanne, 1932) and this is usually sufficient to cover the distal half of the urethral tube. The proximal part of the tube is covered by a flap transposed from the scrotum (Fig 5 & 7). There is only one point where the two suture lines cross each other. This is where the transverse suture line between the prepuce and scrotal flap crosses the vertical suture line of the urethral tube. If the urethral tube is made from an eccentrically placed strip of penile skin and a subcutaneous suture is applied between the preputial skin and scrotal flap, the risk involved in the two suture lines crossing each other can be minimised.

Results

In ten of the sixteen patients the flap

healed well without any fistula formation (Fig 2, 4, 6, 8). In two of the earlier patients the distal part of the flap necrosed. Since then, by strictly maintaining equal length and breadth of the flaps, this mishap has been avoided. Tiny pin head fistulae at the apex of the flaps were seen in another four patients of penoscrotal fistulae. The fistulae resulted from poor healing in a previously scarred skin.

Summary

A scrotal flap has been described to provide cover in penoscrotal hypospadias, and post-operative fistulae near the root of the penis. Scrotum is a store house of lax skin. Transposition of the flap is easy and closure of the scrotal defect presents no problems.

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