



## A CASE SERIES OF MALONE MEATOPLASTY AT TERTIARY CARE HOSPITAL

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### Abstract:

#### Introduction and Objectives

The treatment of meatal stenosis associated with lichen sclerosis is traditionally treated either by meatal dilatation or ventral meatotomy. These operations have high recurrence rates or create a hypospadiac meatus. We present an established technique in the use of a dorsal approach.

#### Methods

A total of 10 patients underwent this operation in a 6 months period.

Mean patient age was 47 years (range 20 to 74) and follow up was 1 year. The operation involves dorsal and ventral meatotomies with an inverted V-shaped relieving incision to correct puckering caused by dorsal meatotomy. Patients were mailed a questionnaire asking if they were pleased with the cosmetic results, and how often and how much they sprayed when passing urine.

#### Results

The final result is a slit-like but good caliber meatus at the tip of the glans.

#### Conclusions

During a follow-up of 1 year there were recurrences in 1/10 patients. 90% patients were either happy or very happy with the cosmetic result. This technique can achieve excellent aesthetic results, with low incidence of a spraying stream.

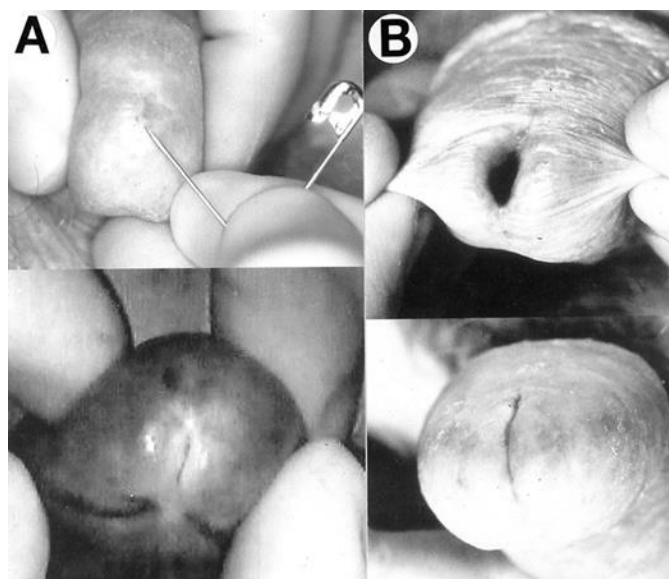
### Introduction:

Lichen sclerosus (LS) is a common condition, which in males mainly affects the foreskin and glans penis. It may also be complicated by urethral involvement, which can range from simple meatal stenosis to severe and extensive urethral strictures.<sup>1</sup> although circumcision generally arrests the progress of the condition, the procedure may trigger meatal stenosis.<sup>2</sup>

A novel technique is described to relieve stenosis of the external urinary meatus in patients with LS. It is rapid and easy to perform on an outpatient basis and it allows good cosmesis with a low incidence of spraying when the patient passes urine.

### Patients and methods:

The indications for the operation are meatal stenosis in a ventrally placed meatus or severe stenosis in any position that does not extend significantly into the navicular fossa (figure 1-A)



**FIG 1.** A, indications for surgery are pinhole meatal stenosis and stenosis in ventrally placed meatus. B, final result is slit-like but good caliber meatus at glans tip.

A total of 10 patients underwent the new operation in a 6 months period. Mean patient age was 47 years (range 20 to 74) and follow up was 1 year. A total of 7 patients had histological proof of LS. Three patients had been circumcised previously without histology but they showed clinical evidence of LS on the glans penis.

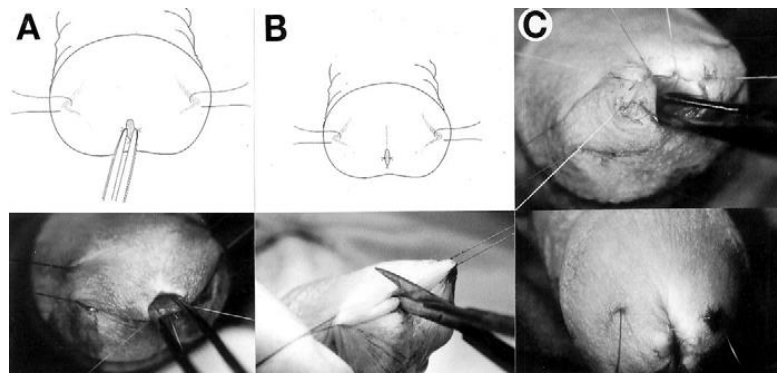
Follow-up was done by interview and clinical examination, at which the neomeatus is opened to look down the urethra (figure 1- B). Using this technique it is clear if recurrence has developed. One patient had recurrent symptoms with poor flow. That patient was sent to urology department and cystoscopy showed a widely open urethra but a significantly enlarged prostate.

The remaining 9 patients, who have remained under review, were mailed a questionnaire asking if they were pleased with the cosmesis of the operation, if they sprayed when they passed urine and, if so, how often and how badly.

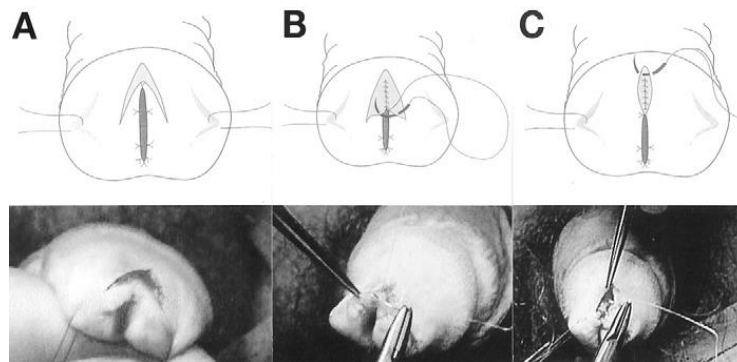
### Technique:

Severe LS involving the navicular fossa or fibrosis of the corpus spongiosum of the glans is a contraindication to this technique, which requires some suppleness of the tissues to allow the formation of the neourethra.

Two 4-zero nylon stay sutures are placed on either side of the stenosed meatus. A small ventral meatotomy is performed and the epithelium of the urethra and glans is opposed with <sup>3</sup>, 6-zero or 7-zero polyglactin sutures. This widens the meatus without making it hypospadiac and allows the insertion of forceps to assess that stricture does not extend significantly into the navicular fossa (fig. 2, A). If it does, buccal mucosa graft urethroplasty is performed.<sup>3</sup> If it does not and this ventral meatotomy can be done adequately without creating a hypospadiac meatus, it is not necessary to perform the new technique. Otherwise deeper dorsal meatotomy is then performed cutting through the glans (fig. 2, B). Again, the epithelium of the urethra and glans are opposed with <sup>5</sup>, 6-zero or 7-zero polyglactin sutures. The combination of ventral and dorsal meatotomies should completely open the stenosed meatus but the cosmetic appearance is poor at this stage since the sutures of the dorsal meatotomy pucker the glans due to the thickness of the corpus spongiosum of the glans (fig. 2, C). This is overcome by an inverted V-shaped relieving incision with the apex of the V close to the proximal limit of the dorsal meatotomy (fig. 3, A). The edges of the relieving incision are freed by sharp dissection. The opposing left and right inner edges are closed with continuous 7-zero polyglactin to form the roof of the distal neourethra (fig. 3, B). The outer glans layer is then opposed with interrupted 6-zero or 7-zero polyglactin (fig. 3, C). The final result is a slit-like but good caliber meatus at the tip of the glans (fig. 1, B).



**FIG. 2.** A, small ventral meatotomy allows passage of forceps to ensure that navicular fossa is not involved for more than few mm. B, deeper dorsal meatotomy is performed. C, epithelium of glans and urethra are opposed with 5 polyglactin sutures but cosmetic appearance is poor at this stage due to puckering caused by thickness of glans spongiosus.



**FIG. 3.** A, inverted V-shaped relieving incision is made with apex of V close to proximal limit of dorsal meatotomy. B, edges are mobilized by sharp dissection, and opposing left and right inner edges are opposed with continuous 7-zero polyglactin. C, outer layers of glans epithelium are opposed with interrupted polyglactin sutures.

**Intraoperative photos:**



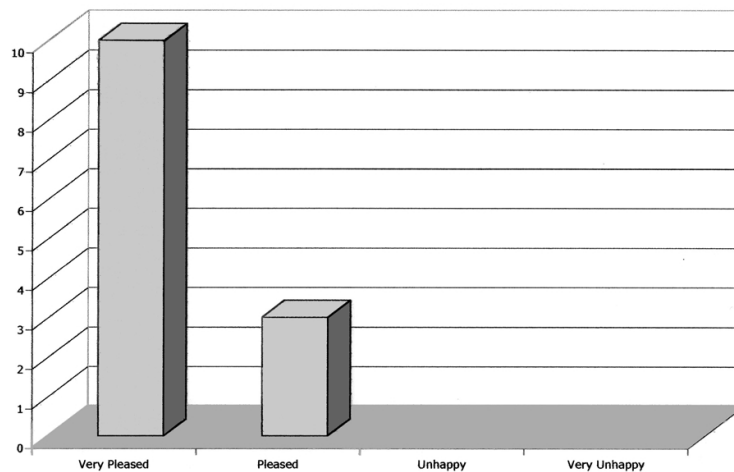
**Results:**

There were no immediate complications.

No patient has had recurrent stenosis and there were no fistulas.

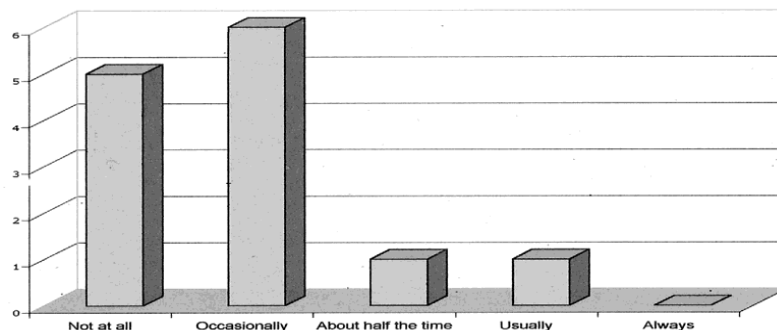
Of the 10 patients 9 replied to the questionnaires. Figures 4 and 5 show the results. Most patients did not spray at all nor did so only occasionally and no patient found it constant or severe. All patients were pleased or very pleased with the cosmetic results of surgery.

**Are you pleased with the cosmetic appearance?**

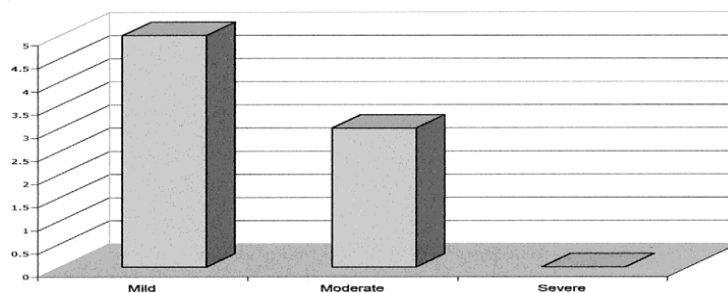


**Figure 4**

**Do you spray when you pass urine?**



**If you do spray how bad is the spraying?**



**Figure 5**

**Discussion:**

Treatment of the urethral complications of LS is known to have a high rate of recurrence.

Venn and Mundy recently reported that extra genital skin or buccal mucosa grafts provide the best long-term results for the treatment of LS strictures involving the navicular fossa.<sup>3</sup>

Although pure meatal stenosis is a less severe condition than when the urethra is involved by LS, it does not mean that it is less serious. When considering surgery for meatal stenosis, the functional and cosmetic aspects should be considered. An ideal operation should permanently relieve obstruction, while recreating a slit-like meatus at the tip of the glans penis that allows the patient to pass urine without spraying. Several operations have been described, including meatal dilatation, simple ventral meatotomy and various types of distal urethroplasty, but it is far from clear that any of these procedures fulfill all of these criteria, particularly when stenosis is severe or the meatus is positioned ventral on the glans.

In patients with LS meatal dilatation cannot be relied on to be effective.<sup>4</sup> As described by elKasaby et al,<sup>6</sup> although eversion of the meatal epithelium possibly allows a decrease in the recurrence rate, it does nothing to overcome this problem.

Kim and King described a technique of meatoplasty<sup>7</sup> based on the principles laid out by Devine and Horton<sup>8</sup> in patients with meatal stenosis after hypospadias repair. They identified the need for meatoplasty to be sited into the dorsal glans but they did so using a V-shaped flap that distorts the glans and makes preservation of the slit-like meatus impossible.<sup>7</sup> In addition, the long-term results of this operation in patients with LS are unreported.

The skin flap meatoplasty advocated by Blandy and Tressider<sup>4</sup> seems to fail on all accounts because it produces a poor cosmetic result with a spraying stream and uncertain efficacy in the long term.<sup>3, 8</sup> The modification of De Sy may improve the cosmesis but the approach is still ventral,<sup>9</sup> which makes it unsuitable for the ventrally situated meatus.

An advantage of this technique is that, because ventral and dorsal meatotomies are performed, it allows a wider opening, which is less likely to re-stenose if there is some slight contracture. Also, it retains the meatus at the tip of the penis. Similarly sized ventral meatotomy would create a hypospadiac meatus, particularly in one that is already slightly ventrally situated at the start.

### **Conclusions:**

The results presented show that the technique is certainly effective in the medium term since there have been no recurrences. It produces a good cosmetic result with all patients pleased or very pleased with the results. Spraying is only occasionally a problem postoperatively but no patient found it constant or severe. Further attention to the shape of the neonavicular fossa may improve this even more.

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