

## Vesicovaginal Fistula Repair: A Simple Suprapubic Transvesical Approach

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Simple suprapubic closure operations were performed for complicated vesicovaginal fistulas in 23 patients. Fistulas with previous unsuccessful attempts (13 patients), fistulas located above the interureteric ridge (5 patients) and fistulas including the ureteral orifice (5 patients) were considered as good candidates for suprapubic approach. There have been 3 failures and, thus, the initial success rate is 86.9 per cent.

### Introduction

Vesicovaginal fistulas resulting from gynaecological and obstetrical procedures are extremely distressing complications both for the surgeon and the patient. Up to date, three basic methods of repairment have been described. They are transvaginal, transabdominal and combined techniques. There are many varieties of each and in some of them allograft materials, homologous or autologous tissues are utilized [1]. As a matter of fact, it is unlogical to offer one of these methods as the best of all. Gynaecology clinics expectedly prefer the transvaginal approach because that is the way in which they gain experience. Despite this, urology clinics are still referral centers for difficult cases. A simple suprapubic transvesical method used to repair complicated vesicovaginal fistulas is presented.

### Patients and operative technique

During the last three years, from 1983 to 1985, 23 patients suffering from vesicovaginal fistulas have been operated on. The causative factors were obstetrical procedures such as prolonged and obstructed labour, forceps or vacuum applications and Caesarean sections in 14 patients. The remaining 9 patients had had hysterectomies for benign diseases. Varying intervals up to the referral time were found. The shortest delay was 6 weeks and the longest 8 years. During these intervals 13 patients had had one or more previous attempts at vaginal repair by gynaecologists. Of the 10 patients who had not undergone a previous repair,

5 had fistulas above the interureteric ridge and 5 had fistulas including the ureteral orifice.

Preoperatively routine IVPs of all patients were taken in order to rule out upper urinary tract abnormalities. Vaginal examination and cystoscopy were done under local anaesthesia to localize the fistulas. No specific medication was given. On the day of operation appropriate antibiotic therapy was started.

The bladder is exposed extraperitoneally through a suprapubic transverse incision under general endotracheal anaesthesia. Anterior vertical cystotomy is performed and the fistula is observed. Whatever the localization and diameter were, a mucosal circumferential incision is carried out 3–4 millimeters away from the fistula. Stay sutures are placed in four directions to allow elevation of the fistulous tract which is mobilized and excised at the level of the outer detrusor layer. Remaining stoma of the tract is sewn with running 3-zero atraumatic polyglycolic acid. In the majority of cases stomal closure approximates the edges of superficial layer. So, mucosa including some submucosal tissue is closed over without undermining with same suture material (see Fig. 1).

If the tissue edges seem to be overstretched, minimal and careful undermining is done. Excessive dissection and creation of separate suture planes are not necessary. If any one of the ureteral orifices is very close or within the circumferential incision, an ureteroneocystostomy is performed. The new orifice is created at a place which is reasonably far from the repair site, simple, nipped reimplantation without submucosal tunnel is preferred and an 8 F ureteral catheter is left in place for 48 hours. A 24 F pezzet catheter is placed through the apex of the bladder and, if indicated, a 16 F indwelling urethral catheter is also inserted. Cystotomy is closed with 1.0 polyglycolic acid in two layers. No Retzius space drainage is done intentionally. Postoperatively, a close catheter care is given with early mobilization. Cystostomy is left for 10–12 days, after the withdrawal of cystostomy tube, an urethral catheter is inserted for two days. IVP is done in the majority of patients approximately 3 months after discharge.

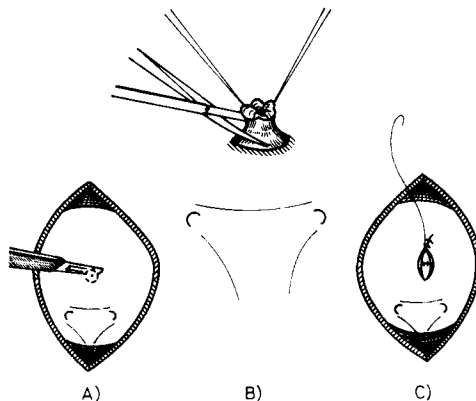


Fig. 1. A, circumferential incision. B, excision of fistulous tract. C, closure (see text)

## Results

Initial and overall success rates of this approach in our hands are 86.9 and 93.1 per cent, respectively. We have had three initial failures (Table 1); one has been repaired at our second attempt with the same approach. In fact, this patient was sent home continent, but three months later the fistula recurred. The second patient unexpectedly refused reoperation and she is still living with a small fistula. The third failure was a patient who had had three previous attempts at vaginal repair without success. Following the failure of our first attempt, we had two subsequent unsuccessful vaginal repairs. Finally in the fourth attempt, the combined vaginal and suprapubic transvesical approach, originally described by Roen [2], was tried and succeeded. We had no complications attributed to this operative technique. None of the six patients who had undergone an ureterocystostomy had any evidence of reflux.

Table 1  
Failures listed according to delay time and previous attempts

Delay time	No. of patients	Previous attempts	Failure
6-12 weeks	10	None	1
3-12 months	7	One	1
1 year	6	More than one	1

## Discussion

Vesicovaginal fistulas are currently repaired by a variety of suprapubic transvesical, transvaginal and combined techniques. The success rates for repairs using different approaches in a variety of situations vary from 70 to 100 per cent in different series [1-5]. No accurate or meaningful comparisons are entirely valid because none of the series are quite similar to each other. In Turkey, contrary to foreign publications, it is not common to find genital cancer surgery or radiotherapy among the aetiologies of vesicovaginal fistulas. For this reason we preferred a simple suprapubic transvesical approach in our series.

Vesicovaginal fistulas are repaired both by urologic and gynaecologic surgeons. In the evaluation of a vesicovaginal fistula one should be able to perform cystoscopy and reconstructive ureteral operation. This fact is already emphasized by others [3]. Our belief is that even immediate repair of vesicovaginal fistulas should be done by urologic surgeons.

The recommended basic principles for successful repair of vesicovaginal fistulas are good timing of operation, correct selection of surgical approach,

complete excision of the fistulous tract, approximation of tissue edges without tension and close follow-up for continuous catheter drainage postoperatively. The correct timing of repair remains an unsettled issue. Collins et al. [6] reported that vesicovaginal fistulas could be repaired without delay with rapid mucosal consolidation achieved by high dose corticosteroid treatment, while some others preferred delays of up to four months [4, 5]. In our experience the shortest delay for a successful repair should be at least 6 weeks, also for reoperations.

Our experience has shown that fistulas located below the interureteric ridge, if not attempted to be repaired before, will be good candidates for vaginal approach. Higher localized and complicated fistulas should be best repaired by suprapubic transvesical approaches. Extending the cystotomy incision up to the fistula and excessive dissection of the fistulous tract in order to close the bladder and vagina in separate planes seem to be unnecessary, time wasting, and subjects the patient to significant blood loss and high morbidity. Another important factor affecting the success rate of these operations is good approximation of tissue edges without tension with properly selected suture materials. We prefer polyglycolic acid for fistula closure.

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