# Abdominal Transperitonial Approach in Management of Vesicovaginal Fistula in Iraqi Patients

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## ABSTRACT:

**BACKGROUND:**

Vesicovaginal fistula (VVF) is an abnormal fistulous tract extending between the bladder and the vagina In addition to the medical sequel; they often have a profound effect on the patient's emotional well-being and social life.

**OBJECTIVE:**

Is to evaluate success of abdominal approach in treating vesicovaginal fistula in Iraqi patients.

**METHODS:**

Retrospective comparative study was carried out on fourteen Iraqi patients suffering from vesicoveginal fistula according to inclusion criteria and followed for 3-12 months after tranabdominal repair with omental interposition flap.

**RESULTS:**

Twelve (85%) patients have obstetrical causes while two (15%) patients have gynecological causes.

Eight (75%) patients aged between 21-30 years while six (43%) patients aged between 31-45 years.

Eight (57%) patients are primigravidae.

Site of fistula either spratrigonal[seven cases (50%)] or infratrigonal [seven cases (50%)].

Only one of infratrigonal fistula is close to ureteric orifice.

Size of fistula either <1cm [seven cases (50%)] or between 1-2 cm [five cases (36%)] or between 2.1-3 cm [two cases (14%)].

Twelvecases (85%) have correct repair.

**CONCLUSION:**

The results of suprapubic closure of a vesicovaginal fistula are very good.


***KEY WORDS :*** vesicoveginal fistula , abdominal repair ,

## INTRODUCTION:

Iatrogenic injury during gynaecological surgery is the most common cause of VVF In developed countries [(1)].

In developing countries like ours, in addition togynecological injuries; obstetrical causes are the leading ones of vesicovaginal fistulae (VVF) [(2)].

Some gynaecological surgeons and most urologists feel that there is a certain proportion of fistulae, varying in number according to the cause of the injury, where the ideal method of treatment can best be decided on after full urogynaecological study, including the status of the upper urinary tract, the relation of the fistula to the ureteric orifices, the presence of epithelialization of the fistulous tract, the reliability of the tissues surrounding the fistula and the outcome of previous operative abdominal approach.

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Adequate exposure of the fistula under direct vision is possible,this permits adequate mobilization of the tissues at the margin of the fistula in to separate layers, complete clearance of scar tissue and meticulous closure with inversion of the mucosal edge into the bladder [(4)].

Because the ureteric orifices can be seen and the ureters intubated, if necessary dissection and closure can proceed with greater freedom and confidence.In this way closure of the bladder without tension is easier to achieve.[(5)]

It is possible to close the defect in the vesicovaginal septum and in this way provide adequate support for the mucosal suture layer [(6)].

By the abdominal approach repair or reimplantation of ureter is possible if this is necessary[7].

If suprapubic drainage is required postoperatively, it requires no additional surgical procedure when using the abdominal approach [8].

## MATERIALS AND METHODS:

This study was carried out in Department of Urology in Kindy Hospital and surgical specialty hospital\medical city from 1998-2010.
Only 14 cases included in the study according to following inclusion criteria

1. No history of previous repair of fistula
2. Child bearing age patients
3. Non malignant fistula
4. Fistula diameter 3 cm or less

Detailed history was taken. Thorough physical examination, hemoglobin estimation, serum creatinin,blood sugar level, ECG and chest X-ray if required were carried out.Ultrasonography and contrast studies were done to document the fistula (cystogram and IVU).
Cystoscopy and vaginal examination were done under GA.

**TECHNIQUE**

With the patient in a supine position, the peritoneal cavity is opened through a midline incision from the pubis to just above the umbilicus.The surgeon, works from the left side of the patient.
After a Devor abdominal retractor has been placed and the bowel packed out of the way the bladder is opened in the midsagittal plane from its dome downwards into the fistula. The ureteric orifices are located;6F ureteric catheters passed up the ureters and left in position during the operation.
The whole thickness of the bladder wall is dissected from the cervix and the vaginal vault, beginning at the peritoneal reflexion and working down to and around the fistula, excising the epithelialized fistulous tract if this is present.
The dissection must proceed until pliable bladder wall andvagina is reached and the bladder edges can be approximated with out tension.

A certain amount of venous ooze is always present during this stage.
The first layer of bladder sutures is now inserted. This consists of closely-spaced continuous sutures of 2 - 0 atraumatic vicryl placed in the inner layer of bladder muscle emerging immediately deep to the mucosal edge.
If correctly done the line of mucosal apposition is virtually invisible and no suture is exposed on the mucosal aspect. The ureteric catheters are kept in place and there distal end withdrawn from the skin. The second layer consists of continuous sutures of 0 vicryl to close the outer layer of bladder muscle.
Interpositional omental flap between bladder and vagina is used.Vagina is closed by continuous 0 vicryl sutures. Intra and extra peritoneal tube drain are kept in place.
The abdomen is closed in the usual way. An 20F Foley catheter is placed in the bladder, gently irrigated to confirm the absence of blood clot .
Postoperatively the patient is nursed in hospital for 2 weeks,broad spectrum antibiotic cover for 7-10 days is used. The drain is removed after 3 days and the urethral catheter is removed 10-14 days after operation.

## RESULTS:

The fourteen patients presented with involuntary loss of urine all the time through vagina with no desire to void. Their age, parity and causative factors are shown in table no.1.
The distribution of the patients according to site and size of the fistulae is shown in table no.2.
Duration of urine leakage ranged from 3 months to 1 year; it was observed that obstetrical causes overruled the gynecological ones; obstructed labor was the causative factor in 12(85%) patients. Two of them labor were in hospital. All patients were operated trans-abdominally. And were successful in 12(85%) cases. On follow up visits, investigations proved that none of the repair compromised the ureteric orifices.

**Table 1: Patient Data**

| Etiology | number | Age group (year) | number | parity | Number |
|---|---|---|---|---|---|
| Obstructed labor | 12(85%) | <20 | 0 | 0 | 8(57%) |
| c/s | 1(7.5%) | 21-30 | 8(57%) | 1-2 | 5(35%) |
| Hysterectomy | 1(7.5%) | 31-45 | 6(43%) | 3-4 | 1(8%) |

**Table 2: Fistula Data**

| Site | | Size | N |
|---|---|---|---|
| Supratrigonal | 7(50%) | <1cm | 7(50%) |
| Infratrigonal | 7(50%) | 1-2cm | 5(36%) |
| Infratrigonal and Close to ureteric orifice | 1(7%) | 2.1-3cm | 2(14%) |

## DISCUSSION:

The anatomical proximity of the urinary and genital systems predisposes the urinary tract to injury after complicated deliveries as well as difficult pelvic surgery.

Although gynecological surgery accounts for the majority of the VVF in developed countries, the scenario is completely different in developing countries where proper intra-natal care is still not available and hence birth related injuries remain the leading cause of vesicovaginal fistula. This explains 85% obstructed labor as a cause.

The age of marriage in our country is above 20 years so VVF is more above this age. Difficult labor is more in first delivery and this explains high incidence after first labor.

Certain points in surgical technique are considered especially important to secure a successful operative result.

The bladder is opened sufficiently widely to allow adequate visualization of the whole operation area. Mobilization of full-thickness bladder wall to secure apposition without tension is most important. Extraperitoneal drainage prevents a haematoma in the vesicovaginal septum. Postoperative drainage of the bladder is a much debated aspect of technique. Cystostomy and temporary diversion of the urine by indwelling ureteric catheters for 8 days is advised.

Santosh Kumar, Nitin S. Kekre, and Ganesh Gopalakrishna Department of Urology, Christian Medical College concluded in a recent study that the Principles of surgical repair of VVF include optimal tissue condition (adequate vascular supply and freedom from infection, inflammation, necrosis and malignancy), option of complete excision of fistulous tract, a tension-free, water-tight, multilayered closure with avoidance of overlapping suture lines, interposition of healthy vascularised tissue between the bladder and vaginal suture lines and continuous postoperative bladder drainage. Transabdominal repair described by O'Conor adheres to these guiding principles.

The omentum which is usually used for interposition, has an abundant vascular supply and lymphatic drainage. It provides the suture lines with a vascular graft, replacement issue and a mechanism for absorption of debris increasing the chance of success of the repair



The abdominal approach is indicated in 1. Inadequate exposure related to a high or retracted fistula in a narrow vagina. 2. Close proximity of the fistulous tract to the ureter. 3. Associated pelvic pathology requiring simultaneous abdominal surgery and 4. Multiple and recurrent fistulas 5. Supratrigonal location 6. Surgeon's inexperience with vaginal surgery.

The abdominal approach has enjoyed reproducible and durable success from 94-100%. The use of limited anterior cystotomy has improved the historically more morbid O'Conor procedure in which the bladder is bivalved to the level of the fistula.

## CONCLUSION:

In properly selected cases the results of suprapubic closure of a vesicovaginal fistula are very good. The surgeon who undertakes the closure of a vesicovaginal fistula by the abdominal route must be virtually certain of achieving a successful closure in one operation. This can be achieved only by combining careful selection of cases with a meticulous operative technique.

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