

## Efficiency and Post Operative Outcome of Open Transvesical Repair of Vesicovaginal Fistula-Our Experience in 20 Cases

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### Abstract:

**Aim :** To describe efficiency and post operative outcome of open trans vesical repair of vesico vaginal fistula(VVF) and present our experience with 20 such patients.

**Methodology :** A total of 20 patients were diagnosed with post hysterectomy (n=18), and post myomectomy (n=2) VVF. All patients were first treated conservatively with bladder drainage using a foley catheter without any success. After 12 weeks, patients underwent open transvesical repair of VVF. Complimentary procedures like ommental interpositioning was done in all the patients and two patients required right ureteric reimplantation.

**Results:** Fistula repair was successful in all the cases with no post operative morbidity or complications.

**Conclusions :** We conclude that open trans vesical repair of VVF is an efficient and safe method.

**Keywords:** VVF-Vesico vaginal fistula, Catheterization, Bivalving of bladder

### I. Introduction

Vesicovaginal fistulae (VVF) are the most common acquired fistula of the urinary tract and have been known since ancient times .

The etiology of VVF differs in various parts of the world. In the industrialized world, the most common cause (>75%) of VVF is injury to the bladder at the time of gynecologic, urologic, or other pelvic surgery. Surgical injury to the lower urinary tract most commonly occurs in the setting of hysterectomy.

Most of the remainder are related to general surgery procedures in the pelvis, anterior colporrhaphy or cystocele repair, anti incontinence surgery, or other urologic procedures.

Other causes of VVF in the industrialized world include malignancy, pelvic radiation, and obstetrical trauma (including forceps lacerations and uterine rupture)

The rate of iatrogenic bladder injury during abdominal hysterectomy is estimated to be between 0.5% and 1.0%

The incidence of fistula after hysterectomy is estimated to be approximately 0.1% to 0.2%

Posthysterectomy VVF are thought to result most commonly from an incidental unrecognized iatrogenic cystotomy near the vaginal cuff.

Other potential mechanisms for posthysterectomy VVF include tissue necrosis from cautery, a suture placed through both the bladder and vaginal wall during closure of the vaginal cuff, or an attempt to control pelvic bleeding by suture ligation.

In the developing world where routine perinatal obstetrical care may be limited, VVF most commonly occur as a result of prolonged obstructed labor due to cephalopelvic disproportion, with resulting pressure necrosis to the anterior vaginal wall, bladder, bladder neck, and proximal urethra from the baby.

The constellation of problems resulting from obstructed labor is not limited to VVF and has been termed the "obstructed labor injury complex" and includes varying degrees of each of the following: urethral loss, stress incontinence, hydronephrosis, renal failure, rectovaginal fistula, rectal atresia, anal sphincter incompetence, cervical destruction, amenorrhea, pelvic inflammatory disease, secondary infertility, vaginal stenosis, osteitis pubis, and foot drop.

Obstetric fistulae tend to be larger, located distally in the vagina, and may involve large portions of the bladder neck and proximal urethra.

An important consideration in any fistula following radiation therapy for malignancy is the possibility that the fistula represents a recurrence of the malignancy. Therefore biopsy of fistula tract should be strongly considered prior to considering definitive repair in these patients.

### Intraoperative risk factors

- Intraoperative injury to the urinary bladder
- Prior uterine surgery (cesarean section)
- Endometriosis
- Infection

- Diabetes
- Arteriosclerosis,
- Pelvic inflammatory disease
- Prior radiation therapy

The operative approach to hysterectomy is an important factor, because bladder injuries are at least three times more common during abdominal hysterectomy compared with vaginal hysterectomy.

Some studies present the result of obstetric vesico-vaginal fistula (VVF) repair including repeating operations for the same patient . Other studies present the result only as successful closure without taking into consideration the continence status. WHO proposes the successful closure rate for first repair at 85% in each facility with the continence achievement among the closed cases at 90 % .

We present our experience in 20 patients of post hysterectomy/myomectomy vvf.

### **Aims And Objectives**

- 1) To describe efficiency of the open transvesical repair of vesico vaginal fistula.
- 2) To describe post operative outcome of open trans vesical repair of vesico vaginal fistula.
- 3) To describe our experience with 20 such patients.

## **II. Materials And Methods**

A total of 20 patients were diagnosed with post hysterectomy(n=18) or post myomectomy(n=2)VVF. All patients were first treated conservatively with continuous drainage using a foley catheter without any success.

Pre operative ultra sonography and cystogram was done in all the patients.

After 12 weeks, these patients underwent open,transvesical repair of the VVF

Complementary procedures like omental interposition (n=20),and ureteric reimplantation (n=2) were also performed along with repair of VVF.

Bivalving of bladder was done with interpoation of omental flap.

Fistulae were closed in three layers.

The steps of the technique of open trans vesical repair are

- Vaginoscopy
- Cystoscopy
- B/L ureteric catheterization
- Transverse lower abdominal incision
- Layer by layer dissection
- Incision of bladder and cystostomy
- Excision and freshening of fistulous margins after complete separation of bladder from vagina.
- Closure of vaginal opening horizontally and bladder opening vertically with interrupted vicryl sutures.
- Interposition of omentum between these suture lines.

## **III. Results**

The goal of treatment of VVF is the rapid cessation of urinary leakage with return of normal and complete urinary and genital function.

The physical and psychologic impact of constant urinary incontinence from a VVF can be overwhelming due to the burden of continual wetness, undesirable odor, vaginal and bladder infections and their related discomfort.

Bladder catheterization may temporize some of these effects until definitive repair is undertaken but often will not completely eradicate leakage, especially in those with large fistula. or those with significant detrusor overactivity.

Regardless of the aforementioned limitations and drawbacks, a trial of indwelling catheterization and anticholinergic medication for at least 2 to 3 weeks may be warranted in selected patients with newly diagnosed VVF, because spontaneous healing may result.

Fistulous tracts that remain open 3 or more weeks after adequate Foley drainage are unlikely to resolve without further intervention, especially those which appear completely epithelialized on examination.

In the presented 20 cases,none of the fistulas healed after 12 weeks of catheterization.

Repair of VVF should be as expeditious as possible to minimize patient suffering; however, optimal timing for repair should allow consideration of certain medical and surgical factors as well.

It is generally accepted that VVF resulting from obstructed labor should be associated with a 3- to 6-month delay prior to definitive repair to allow maximum demarcation of ischemic tissue and resolution of the

associated edema and inflammatory reaction. Longer periods of time, up to 6 to 12 months, have been advocated for radiation-induced fistulae, which are often associated with severe obliterative endarteritis and reduced tissue vascularity.

Over the ensuing decades, the enthusiasm for delayed management has waned and, in general, uncomplicated postgynecological urinary fistulae may be repaired as soon as they are identified and confirmed, thereby minimizing patient discomfort and anguish.

Factors such as size, location, and the need for adjunctive procedures often influence the choice of approach, the most important factor is the experience of the operating surgeon. Thus there is no preferred approach for all fistulae, and the "optimal" approach to the uncomplicated postgynecological VVF is usually the one that is most successful in the individual surgeon's hands.

In our case series, all fistulas were supratrigonal. average size was 3/3 cms

Edges of fistula were soft in 16 cases and rigid in 4 cases.

In two cases, fistulas were very near to the right vesico ureteric junction, so in those cases, right ureteric reimplantation was done.

Fistula repair was successful in all the cases, with mean operative time of 233 minutes (range 150-330 minutes). Estimated blood loss was less than 70 ml.

Length of hospital stay was mean 5 days.

Foley's catheter was removed on 10<sup>th</sup> post operative day.

At 6 months follow up, these patients continued to void normally without any recurrence of VVF.

#### **IV. Conclusion**

Open trans vesical repair of VVF is the tried and tested method of VVF repair.

After iatrogenic VVF, bladder drainage and conservative trial is mandatory for 3-12 weeks.

It helps in healing of small fistulas and allows time for decrease in inflammatory process and adequate tissue vascularity for proper post operative healing of vesico vaginal fistulas.

We conclude that open trans vesical repair of vesico vaginal fistula is a safe and efficient method of supra trigonal vesico vaginal fistula repair.

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