



OPEN VESICOVAGINAL FISTULA REPAIR- OUR EXPERIENCE IN 20 CASES

Urology

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ABSTRACT

Aim: To describe post operative outcome of open vesicovaginal fistula repair (vvf) and present our experience in 20 patients.

Method: 15 patients were diagnosed with post hysterectomy VVF and 5 patients post obstructed labour VVF. 12 patients underwent vvf repair after 4 months through transabdominal approach and 2 patients were repaired through transvaginal approach. 5 patients were previously operated elsewhere but failed, underwent vvf repair through transabdominal approach and 1 patient was referred to our hospital after 6 multiple times failed repair underwent vvf repair through transvaginal approach.

Result: Fistula repair was successful in all cases with no postoperative morbidity and complication at our center.

Conclusion: Both approaches achieved comparable success rate clinically. Transabdominal and vaginal approach can be used judiciously in properly selected cases.

KEYWORDS

Vesicovaginal Fistula, Abbreviation, VVF, Vesicovaginal Fistula

INTRODUCTION

Vesicovaginal fistula (VVF) is an abnormal fistulous tract extending between the bladder and the vagina that allows the continuous involuntary discharge of urine into the vaginal vault. In addition to the medical sequelae from these fistulas, they affect physical, mental, social and sexual life of the patients¹. In developing countries, the predominant cause of VVF is prolonged obstructed labour (97%)¹. Conversely, in industrial countries iatrogenic injury to the urinary tract is the most common cause of VVF and the majority are consequences of benign gynaecological surgery². 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%.³ 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 post hysterectomy 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, hydroureteronephrosis, renal failure, rectovaginal fistula, rectal atresia, anal sphincter incompetence, cervical destruction, amenorrhea, pelvic inflammatory disease, secondary infertility, vaginal stenosis, osteitis pubis, and foot drop.⁴

Obstetric fistulae tend to be larger, located distally in the vagina, and may involve large portions of the bladder neck and proximal urethra.⁵

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 factors⁶

Intraoperative injury to the urinary bladder, prior uterine surgery (cesarean section), endometriosis, diabetes, infection, pelvic inflammatory disease, arteriosclerosis, prior radiation therapy

WHO proposes the successful closure rate for first repair at 85%. We present our experience in 20 patients of post hysterectomy and post obstructed labour vvf

METHOD:

15 patients were diagnosed with post hysterectomy VVF and 5 patients post obstructed labour VVF. 12 patients underwent vvf repair after 4 months through transabdominal approach and 2 patients were repaired through transvaginal approach. 5 patients were previously operated elsewhere but failed, underwent vvf repair through transabdominal approach and 1 patient was referred to our hospital after 6 multiple times failed repair underwent vvf repair through transvaginal approach.

Vaginal repair

When the vaginal route was used both the ureters were catheterized cystoscopically to safeguard the ureters. After identification of fistula, a small-sized Foley catheter was passed through it in the bladder directly and balloon was inflated. Traction on Foley catheter helped to bring the fistula closer to the operating surgeon. Vaginal mucosal circumscribed incision around the fistula was given after saline infiltration into the mucosa. A generous plane between the bladder and vagina was developed at least 2 cm beyond the fistulous opening to get adequate vaginal flaps for layer-wise closure. Fistulous tract was excised. The fistula repair was done in three layers. First layer was created by approximating the edges of the bladder wall. Second layer was created by approximation of perivesical fascia over the first layer. Third layer of repair involved the closure of vaginal flaps. Interposition was done using martius flap. Bladder was drained with per urethral catheter only. In all patients after 4 weeks postoperatively perurethral catheter was removed.

Abdominal repair

Fistula repair through the abdominal route was done using the O'Connor technique⁷. Cystoscopy and ureteric catheterization was

done before opening the abdomen. Bladder was bivalved till the fistula site and then was dissected off the vagina. Bladder and vagina were closed separately and interposition of omentum or pelvic peritoneum. Suprapubic and per urethral catheter was placed for bladder drainage. Drain removal was done on 4th postoperative day and SPC and per urethral catheter after 10th and 4 weeks respectively.

All patients were kept on anticholinergics to avoid bladder spasms for 3 weeks.

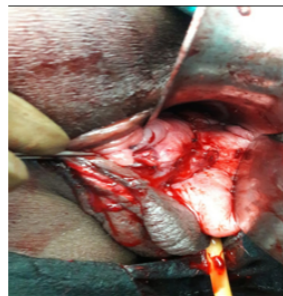


Figure 1.



Figure 2.

Martius Flap Used For Vvf Repair

RESULT:

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.

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, 19 fistulas were supratrigonal and 1 was infratrigonal. Average size was 2/2cms.

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 156 minutes. Length of hospital stay was mean 5 days. Per urethral catheter was removed after 3 weeks. At 6 months follow up, these patients continued to void normally without any recurrence of VVF.

CONCLUSION:

Both approaches achieved comparable success rate clinically. Trans abdominal and vaginal approach can be used judiciously in properly selected cases

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