Original Article

Surgical Repair of Genital Fistulae – analysis of 62 cases in a tertiary hospital

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Abstract

Objectives: To determine the etiology of genital fistulae and the outcome of treatment. **Methods:** A total number of 62 women with genital fistulae were managed during the period of January 2001 to December 2007. Fifty seven cases were urogenital and five cases were rectovaginal fistulae. They were analyzed with regards to the age, parity, etiology, mode of treatment and outcome. The route of repair was individualized according to the appropriate access of fistulae. **Results:** Obstetric complications were the leading cause (79.03) of genital fistula. Majority (78.94%) of urogenital fistulae were treated surgically through vaginal route. Out of 57 cases of urogenital fistulae, 51 cases were repaired successfully in the first attempt and three patients were cured at the second repair. The overall cure rate achieved was 94.8%. All of the five rectovaginal cases were closed after a single attempt. **Conclusions:** A high percentage of patients with genital fistulae can be repaired by the experience of surgeon, team work and meticulous surgery with conventional approach.

Key words : genital fistulae, recto-vaginal fistula (RVF), vesico-vaginal fistula (VVF)

Introduction

Genital fistula is a major problem in women of reproductive age group in India. Pressure necrosis from prolonged and difficult labor is the single most important cause of genitourinary fistula in developing countries, whereas gynecological surgery is responsible for high incidence of genital fistula in developed countries¹.

The incidence of genitourinary fistulae is very high in

countries where the obstetric services are poor and underdeveloped. Comparison of cure rate in different series is difficult as success varies with the general condition of the patients, the number of previous attempts of the repair and the experience and expertise of the surgeon². We report our experience with emphasis on the outcome of treatment of genital fistulae in our hospital.

Methods

A total of 57 cases of urogenital fistula and five cases of rectovaginal fistula were treated during the period from January 2001 to December 2007 in the Department of Obstetrics & Gynecology, Burdwan Medical College, Burdwan. All the women with fistulae were reviewed after 8 weeks and 12 weeks following surgery. Results were analyzed by age, parity, etiology, site of fistulae, approach of repair and result of surgery.

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Preoperative evaluation:

After general evaluation, women under study were assessed under general anesthesia before planning the type of surgery. Three swab tests were performed to detect smaller fistula. Cystoscopy and USG were performed for additional information.

Surgical approach and techniques:

In transvaginal approach women with fistulae were placed in lithotomy position and the vaginal and bladder wall were dissected carefully. Schuchardt's incision was needed in seven cases of fistulae repair. After mobilization of the fistula, bladder wall was repaired in two layers by 3/0 continuous polyglactin suture without tension and the vaginal wall was repaired by interrupted suture of 2/0 polyglactin. Martius graft was used in a case of big vesicovaginal fistula. In the transabdominal route the bladder was opened extraperitoneally, both ureters were catheterized and the bladder defect was circumscribed and dissected from the underlying cervix or vagina. Adequate dissection and mobilization of the bladder mucosa was performed to bring the edges of fistulae without tension. Closure of the cystostomy was in two layers and supra pubic drainage was maintained for 24 hours. In transperitoneal just a cervical repair, the bladder was dissected from the cervix and was repaired. The bladder and vagina were closed in layers by 2/0 and 3/0 polyglactin suture. For a successful repair, post operative care was very important. Continuous catheter drainage for 10 days with proper monitoring of IV fluid and urine output in the bag was done to ensure the bladder was empty. Regular voiding of urine after withdrawal of catheter was important. Urine sample was sent for culture and sensitivity test.

Results

All the women under study presented with genital fistulae. The age of the women with urinary fistulae ranged from 15 to 65 years and their parity varied from

one to four. Maximum number of women (56.8%) having urinary fistulae were in the age group of 20-30 years and the majority (58.97%) were primipara with history of labor. The age of the women with rectovaginal fistula ranged from 15-45 years (median 25) and parity ranged from 0 to five (median two).

Most of the patients (76%) with fistulae came within three years and majority of the fistula cases (79.03%) in our series was obstetrical in origin. We delayed repair for three months after the occurrence of fistula as delay allows slough to separate and inflammatory change to resolve. Minimum eight weeks period was allowed for secondary repair in case of primary failure.

In our series 82.3% were of poor socio-economic status. Most of the poor patients (41/62) having fistula of obstetric origin were unbooked, arrived at the hospital late in labor and a lot of cases were handled by untrained dais and attended hospital only after prolonged or obstructed labor. The patients with obstetric fistula (urogenital fistula 46; rectovaginal fistula 3) also suffered from malnutrition and anemia which were aggravated by sepsis. So, to maximize the operative healing the general health of the patient should be improved.

Out of the 46 cases of urogenital fistula of obstetric origin, six fistulae had accidentally occurred due to obstetric operations (LSCS-2, Craniotomy-1, Difficult forceps-2, Subtotal hysterectomy due to rupture uterus-1) and rest of the 40 cases were due to prolonged obstructed labor.

Majority (70%) of the obstetric fistula cases were due to neglected prolonged labor of >24 hours. Obstetric fistula cases were not associated with any health problems like lower limb weakness, foot drop or limb contracture.

Obstetric complications (49;79.03%) were the most common cause of genital fistula whereas 20.97%

Table 1. Etiology of genital fistulae

Causes of fistula	Urogenital N=57	Rectovaginal n=5	Total n=62(%)
Obstetric complications	46	3	49(79.03)
Gynecological complications	11	2	13(20.97)

(13/62) were of gynecological origin (Table 1). The different types of urogenital fistulae are shown in Table 2.

Table 2. Types of genital fistula encountered

Types of fistulae	Total n=62(%)
Vesicovaginal	48(77.42)
Urethrovaginal	04(6.45)
Vesicouterine	03(4.84)
Ureterovaginal*	02(3.23)
Rectovaginal#	05(8.06)

* One of the patients with ureterovaginal fistula had concomitant vesicovaginal fistula

Two of the patients with VVF had concomitant RVF

The most common type of fistula was vesicovaginal fistula (77.42%). In urogenital fistula the transvaginal approach was chosen in 78.9% (45/57) of the cases and transabdominal approach was performed in 10 cases (Table 3). Out of 57 women, fistulae were closed in

89.5% of cases after the first attempt. In the remaining six subjects the fistula failed to close after first attempt. Five of these cases had a second attempt at repair of fistula. Three fistulae were successfully closed and again there was a failure of two cases. Out of the two failed cases after the second attempt, one required uretero-sigmoid anastomosis at the age of 64 years in a very large high vaginal fistula due to radiotherapy and the other refused for further operation. The overall success rate was 94.8% and one woman (1.75%) who was lost to follow up was considered as failure as shown in Figure 1. Twelve women had urinary tract infection after repair and broad spectrum antibiotics was used after culture and sensitivity test. Five women having rectovaginal fistula underwent successful primary repair. Two cases having vesicovaginal fistula and low rectovaginal fistula were repaired successfully in the same sitting by making complete perineal tear.

Discussion

Continuous urinary and fecal leakage creates social and psychological stress to women. Timing of surgery and precise methods are subjected to varied opinions and are dependent on precise characteristics of each fistulae¹. Most VVF were repaired by vaginal approach as it avoids laparotomy, splitting of the bladder, shorter recovery time, lesser blood loss and post operative morbidity³. In our present series 78.94% of the cases had been approached vaginally but Sarker et al⁴ repaired

Figure 1 : Result of repair of urogenital fistulae

fistulae in 89.6% of the cases transvaginally. Each case of operation was judged by preliminary examination under anesthesia and large and complicated fistula required more complex and extensive procedure by interposition of auto grafts for not only repair of the defective area but also for additional blood supply⁵. The incidence of abdominal approach in our study was lower (17.54%) but Naru⁵ had chosen transabdominal approach for repair of the urogenital fistulae in 69.1% of the patients and transvaginal repair was performed in 29.4% of the cases in their series. We preferred transabdominal route only in a few cases where fistula was supratrigonal, larger, recurrent and nearer to ureteric opening.

Table 3. Duration of complaints

Years	No (%)
N=62	
1-2	32(51.6)
2-3	15(24.2)
3-4	09(14.5)
4-5	04(6.4)
>5	02(3.3)

Table 4. Socio-economic status

S-E status	No (n=62)	Percent
Poor	51	82.3
Middle Class	09	14.5
Upper middle Class	02	3.2

Table 5. Parity

Parity	No. (n=62)	Percent
Nulliparous	01	1.7
P1	34	54.8
P2-P3	22	35.5
P4-P5	05	8.0

Primipara contributed 54.8% of the genital fistula; one nulliparous comprised with traumatic fistula

Table 6. Duration of labor

Duration of labor (hours)	No. (n=40)	Percent
12-24	12	30
>24	28	70

Table 7. Routes of approach of repair of urogenital fistula

Routes of approach (n=57)	No. of cases (%)
Vaginal approach (n=45)	
For midvaginal	38(66.68)
For vault	3 (5.26)
Neo-urethra and vaginal repair	3 (5.26)
Urethral dilatation & repair	1(1.75)
Abdominal approach (n=10)	
Transvesical	7(12.28)
Transperitoneal for Juxtacervical	1(1.75)
Transperitoneal for uterovesical	2(3.51)
Abdomino vaginal approach (n=2)	2(3.51)

Ureteroneocystostomy was a procedure of choice in women with ureteric fistulae. During ureteric implantation, the submucous tunnel method to prevent reflux was adopted along with the psoas hitch, which prevented tension in the anastomotic site¹. Our success rate for repair of urogenital fistula after the first attempt was 89.5%. Choudhury et al⁶ showed higher success rate (93.33%) in primary attempt, whereas other studies by Sarker et al⁴ and Naru⁵ showed successful repair in 79.1% and 79.41% of the cases respectively after first attempt. The prospect of cure rate after primary attempt declines due to scar formation and loss of healthy tissue². Our encouraging result could be attributed to proper selection of cases and adequate mobilization of tissue plane.

Conclusion

The success rate repair of urogenital fistula was 89.5% in the primary attempt and 100% for rectovaginal fistula. This is due to better technical skill of the surgeon and appropriate operative and postoperative care. One case was lost for follow up due to ignorance and one case refused further operation due to frustration and

lack of economic support.

Preventable aspect of urogenital fistulas

- (a) Adequate antenatal supervision to exclude CPD, malposition and contracted pelvis
- (b) Neglected prolonged/obstructed labor should be avoided by TBA or hospital delivery and intrapartum partographic analysis is very much important for the detection of prolonged and obstructed labor in institution. No active phase of labor should be prolonged for more than 12-14 hours in modern obstetric practice.
- (c) Rational forceps delivery
- (d) Difficult Cesarean section in obstructed labor, head low down, or repeat CS should be carefully done by experts and not by trainees.
- (e) Difficult destructive operations should be avoided in favor of CS.
- (f) Prophylactic catheter drainage of the bladder for 14 days for anticipated bladder damage or confirmed small bladder fistula.
- (g) Proper care should be taken during hysterectomy operation in cervical fibroid, endometriosis, PID,

and malignancy which carry the greatest risk of lower urinary tract injury.

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