

Genitourinary Fistula – Experience in a Peripheral Hospital of Bangladesh

SN BEGUM

Summary:

Genitourinary fistula is one of the most dreadful complications encountered in obstetrics and gynaecology and constitute a major surgical challenge for the urogynecologist. With advanced obstetric care, this fistula is rare in industrialized world but it is still a major health problem in underdeveloped countries, particularly in sub-Saharan Africa and Asia including Bangladesh.

Victim of fistula become physically cripple, socially outcast, psychologically traumatized. Surgical repair is the definitive cure. A surgeon with adequate training and experience can optimize outcome of surgery by modifying techniques. Repair of vesicovaginal fistula remains a major challenge to surgeon worldwide.

Aim of the study was to undertake a baseline evaluation of all genitourinary fistula cases and to share the experience of management of fistula with others.

This descriptive study was conducted in the department of Obstetrics and Gynaecology, Sylhet M.A.G. Osmani Medical College Hospital. A total 311 genitourinary fistula cases were admitted and managed here from July 2004 to March 2010.

In this study 64.63% of the patients were between 20-35yrs of age (range 18-70yrs), 42.76% were primipara whereas 20.57% were grandmulti. Height was <145cm in 67.84%

Introduction:

Genitourinary fistula is the most dreadful complication encountered in obstetrics and gynaecology. Over two million women worldwide are living with obstetrical fistula. The incidence of fistula has been estimated about 1-2per 1000 deliveries worldwide, with an annual incidence of upto 50,000 to 100,000¹. Though the incidence varies from country to country, World Health Organization estimates the prevalence of obstetrical fistula is 0.3% of all deliveries. In Bangladesh 1.9% women are suffering from genitourinary fistula¹.

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cases. Majority (80.38%) of the patients were from poor socioeconomic status; 91.63% was housewife, and 89.38% was illiterate. Obstructed labour was responsible for 86.81% of fistula.

Vesico-vaginal fistula was the most common (87.46%) type of fistula and 79.43% of fistula was complex in nature. 92.10% had local repair through vaginal approach, labial fat graft was used in 44% cases.

In this study out of 242 operation 85.54 %(n=207) had successful repair. Among them 75.61% patient were completely continent.

Causes of failure were likely to be due to extensive scarring with loss of tissue, previous failed repair, large size of fistula and in some cases post-operative catheter problem and infection.

Fistula is largely a preventable condition. More emphasis should be given on prevention of fistula by increasing community awareness, female education and empowerment, avoiding early marriage, family planning, improved maternity services, timely referral and availability of emergency obstetric care services.

Key words- Genitourinary fistula, socio-demographic characteristics, management outcome.

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In developing countries 90% of these fistulas are a consequence of neglected and obstructed labour as opposed to developed countries, where they are a complication of surgery or radiotherapy.² The overall incidence of traumatic fistula varies between 0.5-1.5% and bladder injuries are more common than ureteric one.³

Prolonged, obstructed labour is the primary factor associated with obstetrical fistula. Other major contributing factors include poverty, illiteracy, low status of women, sex inequality, malnutrition, social and cultural issues to family planning and the lack of emergency obstetric care.⁴

Fistula is as old as mankind but its documentation is much younger than that.

The occurrence of such fistula definitely dates since antiquity. Vesico-vaginal fistula in the mummy of

Henhenit (2050 B.C.), wife of the Egyptian Pharaoh was documented in 1935.⁵

Avicenna in 1037 AD, first recognized the relationship between a hole in bladder (fistula) and difficult childbirth. James Marion Sims, the father of American Gynaecology, was first to treat women with vesicovaginal fistula.

Genitourinary fistula is a devastating condition affecting the physical and psychological health of women. Victim of fistula remain childless which adversely affects the woman's future. They are likely to be abandoned by their husband on whom they were economically dependent. So it is not a life threatening but socially debilitating condition.

Surgical repair is the definitive cure. The best chance of successful repair is at the first attempt. A surgeon with adequate training and experience can optimize outcome of surgery by modifying techniques according to the site, size and complexity of fistula.⁶ Repair of vesicovaginal fistula remains a major challenge to surgeon worldwide with many acceptable surgical techniques.

Aim of this present study is to share the experience of management of genitourinary fistula in a tertiary level peripheral hospital of Bangladesh.

Materials and methods:

This descriptive study was carried out in the department of obstetrics and gynaecology, Sylhet MAG Osmani Medical College Hospital from July 2004 to March 2010. All women admitted with genitourinary fistula were included in this study. 311 genitourinary fistula cases were admitted during the study period. Every patient were evaluated with a detail history regarding age, parity, socioeconomic status, obstetrical history, causes and type of fistula, associated problem, operative treatment with its outcome. Thorough preoperative evaluation of fistula was done in every case. Methylene blue dye test and examination under anesthesia was undertaken in difficult cases. Cystoscopic evaluation and intravenous urography was done in some cases. 50 cases of complex fistula need ureteric catheterization during operation due to close proximity of ureteric orifices to fistula margin. Due permission was taken from the hospital authority for this study. All the data were collected by the investigator in a predesigned data sheet. Data were analyzed manually.

Result:

A total 311 patient with genitourinary fistula were admitted during the study period.

Table-I showing demographic profile of fistula patient. 64.63% were between 20- 35 yrs age group (range 18-

Table I

<i>Socio-demographic character of study subject.</i>			
Parameter	Number(n=311)	Percent (%)	
Age (yrs)-	< 20	38	12.21
	20-35	201	64.65
	36 and above	72	
Height of patient (cm)-	23.15		
	< 145	211	67.84
Parity-	>145	100	32.15
	1	133	42.76
	2-4	109	35.04
	5 and above	64	20.57
Socioeconomic condition-	Unmarried	04	1.60
	Poor (5000Tk/month)	250	80.38
	Lower middle class (5000-15000 Tk/M)	49	15.75
	Middle class (>15,000Tk/M)	12	3.85
	Occupation-	House wife	285
Education-	Day labour	25	8.03
	Service holder	01	
	0.32		
	Illiterate	278	89.38
	Primary	28	9.00
	Secondary	05	1.60

70yrs), 67.84% were <145cm in height, 42.76% were primipara, 80.38% were from poor socioeconomic status, 89.38% were illiterate, 91.63% were housewife.

Table-II showing out of total 311 cases, 95.81% were obstetrical fistula (n-298) and 86.81% of fistula was following obstructed labour

Table-III showing vesicovaginal fistula were the commonest type of fistula(87.46%) among those 79.43% of fistula were complex in nature.

Table-IV showing vaginal stenosis, RVF, CPT, failed repair are the major associated complicating factors with fistula.

Table-V showing 242 patients were operated for genitourinary fistula; majority of the patient (n-223) had local repair with or without graft through trans-vaginal route.

Table-VI showing the outcome of operation for fistula. Successful repair of genitourinary fistula includes those who were completely continent or those who have only urethral incontinence following surgery. 84.54% patient had successful repair out of which 75.61% were completely continent. It also showed that most of the failures were in complex type of fistula.

Table-II

<i>Causes of fistula-</i>		
Causes of fistula	Number	Percent(%)
Obstetrical causes	298	95.81
Obstructed labour	270	86.81
Ruptured uterus	28	9.00
Traumatic	7	2.25
Inflammatory	2	0.64
Malignancy	3	0.96
Congenital	1	0.32
Total	311	100

Table-III

<i>Types of fistula</i>	
A. According to site	Number(%)
1. Vesico vaginal fistula (VVF)	272(87.46%)
Mid vaginal-	110
Juxtra urethral-	25
Juxtra cervical-	74
Circumferential-	63
2. Vesico-cervical	8
3. Vesico-uterine	1
4. Vault fistula	3
5. Urethro-vaginal	16
6. Uretero-vaginal	9
7. VVF & RVF	8
8. Vesico-labial	1
B. Types of fistula according to WHO criteria	
Simple	64 (20.57%)
Complex	247 (79.43%)
Total	311

Table-IV

<i>Associated problems complicating the fistula</i>	
Associated Problem	Number
Vaginal stenosis	57
RVF(Rectovaginal fistula)	8
CPT(complete perineal tear)	6
Combined(VVF, RVF, CPT)	5
Previous failed repair	55
Secondary amenorrhoea	28
Urethral incontinence	16
Complete or partial avulsion of urethra	7
Hydroureter with hydronephrosis	2
Vesical calculus	10
Obstetrical palsy	7
VVF with fibroid, VVF with pregnancy	3

Table-V

<i>Operative Management of genitourinary fistula</i>	
Operative Management of genitourinary fistula	Number
A. Operated for genitor-urinary fistula	242
1. Local repair with or without graft	223
Local repair of VVF without graft	102
Local repair with graft	107
Local repair with graft & urethroplasty	9
Local repair with graft with repair of RVF	5
2. TAH with Transvesical repair of VVF	4
3. Transvesical repair of VVF	6
4. Re-implantation of ureter	8
5. Augmentation cystoplasty	1
B. Other operations (Kelly suture, Colostomy, RVF repair)	19
Total operation	261

Table-VI

<i>Outcome of repair according to type of fistula-</i>			
Outcome	Simple (n-60)	Complex (n-182)	Total operation (n-242)
Successful	58	149	207
Complete dry	-	-	183
Urethral incontinence	-	-	24
Failed	2	32	34
Death	-	1	1

Discussion:

This descriptive study was conducted in the department of Obstetrics and Gynaecology, Sylhet M.A.G. Osmani Medical College Hospital. About 14,000 patients were admitted each year in this department. A total 311 genitourinary fistula cases were admitted and managed here from July 2004 to March 2010. During the study period, rate of genitourinary fistula was 2.59 %, which was higher in comparison to a community based study by Engender health (1.69%)⁷.

Early age of marriage and childbearing, high parity, increased rate of obstructed labour and low contraceptive prevalence rate were the major contributory factors in this area. Also there is increase referral from different districts of greater Sylhet to this only tertiary care center of this region.

Aim of the study was to undertake a baseline evaluation of all genitourinary fistula cases and to share the experience of management of fistula with its outcome in a tertiary hospital of Bangladesh.

In this study 64.63% of the patients were 20-35yrs of age whereas 23.15% were more than 35yrs. In a study from Nigeria showed that obstetrical fistula occur usually in younger age group⁸. Another study in Bangladesh have shown that majority of the fistula patients belong to 16 to 20 years age group which does not correlate with this study⁹.

In this study Primipara were 42.76% whereas 20.57% were grandmulti which has similarity with another study in Bangladesh where 54% patient developed fistula at their first child birth.¹⁰ It also correlate with other studies where they have shown that primipara are more vulnerable to develop fistula^{6,11,13}.

Height is an important criterion for diagnosis of contracted pelvis which may lead to obstructed labour during vaginal delivery. Women whose height is less than 140 cm. are more likely to have cephalopelvic disproportion and require surgical intervention for child birth.^{8,9} In present study height of the patient were <145cm in 67.84% cases. Average height of Bangladeshi women is 145 to 150 cm.¹³.

Most (91.63%) of the patients were housewife in this study which reflects that housewives are less empowered and more dependent on others for their wellbeing. Education, socio-economic condition and antenatal care rather than occupation are the probable associated factors in previous studies.

Majority (80.38%) of the patient were from poor socioeconomic status which is similar to other the study

in Nigeria⁸ and in our country^{9,12}. Poor socioeconomic condition is inter-related to a number of other factors such as ignorance, lack of knowledge regarding antenatal care, gravity of the situation and treatment seeking behavior. Prevention of genital tract fistula requires significant changes in these social, economic and cultural issues. There are 12 cases from higher middle class group where patient husband remains abroad. They have no voice in decision making, and they are depended on other family member.

In this study 89.38% patient were illiterate. Education and economic empowerment of girls/women are vital in addressing this issue.

Obstructed labour was responsible for 86.81% of fistula, which correlate well with other study⁶. There are 7 cases of traumatic fistula of which 3 had history of fall on sharp object, 4 had iatrogenic fistula following abdominal hysterectomy. One interesting case of vesicoblabial fistula develop following local repair of VVF with labial fat graft in a 40yrs lady. There is sacculation of bladder wall through the weak point of graft with formation of fistula. There are 2 cases of unsuccessful repair due to bladder tuberculosis diagnosed by histopathology which need further surgery.

Vesico-vaginal fistula was the most common (87.46%) type of fistula in this study which has similarity to other study^{6,10}. There were 63 cases of circumferential fistula where there is complete loss of tissue in between bladder and urethra.

It is difficult to interpret and compare many reported studies due to lack of accepted classification of fistula. Currently two main classification systems one based on anatomical site and another based on WHO criteria are in use. WHO classify fistula as simple & complex type (depending on the possible degree of anticipated difficulty during surgical repair).

Complex fistula includes size > 4cm., multiple in number, associated RVF, vaginal stenosis, involvement of urethra or continent mechanism, involvement of cervix, circumferential defect with extensive tissue loss and previous failed repair.

In this study 79.43% of fistula were complex in nature. Rest of the fistula were simple which was easy to repair with good prognosis and the result is comparable to other study¹⁰.

Successful repair of fistula depends on many factor. Patients presenting with vesicovaginal fistula may present with other associated problems which complicate and interfere with successful repair. These associated problems adversely affected successful repair as documented in other study¹³.

57 patients (18.32%) presented with associated vaginal stenosis, 55 had previous failed repair with extensive scarring. There were RVF in 8 case, 5 cases had combined RVF, VVF & CPT. 7 patients had complete avulsion of urethra. The ischemic changes caused by obstructed labour have a devastating impact on urethral function. So after successful correction of bladder defect, many women have short, fibrosed functionless urethra. About 30% women with fistula have some degree of stress incontinence following repair¹⁴. There are 10 cases of vesical calculus which needed cystolithotomy prior to fistula repair.

Out of 242 operation for genital fistula 223(92.14%) had local repair through vaginal approach which is similar to other study.¹⁶ The transvaginal approach seems to be faster, less morbid with relatively minimum blood loss and also had advantage in term of patient comfort.

During repair of fistula labial fat graft was given in 107 cases (44%). Use of graft specially in complicated fistula has improved the outcome in this study. It was observed that grafts increases the success rate in comparison to the directly closed fistulas. It brings new blood supply and fills the dead space between bladder & vagina. C.R. Majinge routinely used Martius Bulbo-cavernosus graft to reinforce the repair with 96% success rate¹⁵.

Success rate depends on type of fistula, technique of operation and above all skill of surgeon.² Primary repair gives the best chance of continence. Repeated operation is justified but success rate decreases progressively with number of previous repair.

Successful repair of genitourinary fistula includes those who are completely continent and those who had only urethral incontinence following surgical repair. In this study out of 242 operation 207(85.54%) had successful repair. Among them 183 (75.61%) patient were completely continent, 24 had some degree of urethral incontinence. This success rate is comparable to others.^{6,10} Repair was failed in 34 cases which were mainly of complex type of fistula. One patient expired due to formation of fecal fistula following augmentation cystoplasty for grossly contracted bladder.

Interpretation of per operative and post operative data with outcome of repair revealed the causes of failure of operation. It was due to extensive scarring and loss of tissue, previous failed repair, large size of fistula and in some cases post-operative catheter problem and infection. So, it can be concluded that with other important factors (fibrosis, skill of surgeon, technique of operation). Adequate postoperative care is also vital for increasing success rate.

Conclusions:

Obstetric fistula is one of the most devastating disability of women developed from childbirth. Vasicovaginal fistula is not only a problem for the patient, family members and the society but also one of the major and difficult problem for treating gynaecologist. It occurrence reflects the level of maternity care in a community. More emphasis should be given on prevention of fistula by increasing awareness among people, female education and empowerment, avoiding early marriage, availability of emergency obstetric care and family planning services.

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