

A Study of Genitourinary Fistulae in North Bengal

B. Sarker, S. Ghoshroy, S.K. Saha, A. Mukherjee, R.P. Ganguly, S. Saha

Dept. of Gyn & Obst, North Bengal Medical College and Calcutta Medical College, Calcutta

Summary

Genital fistulae are distressing gynaecological conditions which constitute 0.5 to 1.7% of all gynaecological admissions to teaching hospitals.

The present study of 139 cases of genitourinary fistulae shows an incidence of 1% of all gynaecological admissions in North Bengal Medical College, a rural medical college in North Bengal.

Obstetric fistulae comprised 93.5% of all genitourinary fistulae.

Vesico-vaginal fistulae constituted 96.4% of genitourinary fistulae while 88% of the patients were from poor class of society and 60.43% belonged to the illiterate group.

One hundred and thirty four submitted to surgical repair. Vaginal approach was used in 120 cases (89.6%), combined vagino-abdominal route repair was attempted in 5 cases (3.7%) and abdominal route was needed in 9 cases (6.7%). Flap splitting (72.4%) was the commonest method adopted. The success rates of 1st attempt, 2nd attempt & 3rd attempt repair were 79.1%, 44% and 40.1% respectively. V.V.F. is a preventable disease to a large extent.

Introduction

The subject of vesico-vaginal fistula (V.V.F.) dates from antiquity, Mahfouz of Cairo (1957), a great fistula expert described one vesico-vaginal fistula which was found in a mummy estimated to be approximately 4,000 years old. Several large studies of obstetric V.V.F. have been reported from India. Incidence of obstetric fistula varies from 88% to 97% (Naidu 1962, Rao 1975, Maheshwari and Khushalani, 1989). Pressure necrosis from prolonged and difficult labour is the single most important cause. In developed countries only 20% of genitourinary fistula are of obstetric origin (Moir 1973).

The present study focuses on the incidence, patients' profile, etiopathogenesis, types of genitourinary fistulae and results of surgical repair at a rural

medical college which caters to the 6 districts of North Bengal and to the patients coming from adjoining states and countries viz. Bihar, Assam, Sikkim, Nepal, Bhutan and Bangladesh.

Materials and Method

One hundred and thirty nine cases of genitourinary fistulae admitted to North Bengal Medical College during eleven and half years from January 1986 to June 1997 were critically analyzed to study the various epidemiological factors, etiological causes and types of fistulae.

Apart from history taking and clinical examination, examination under anaesthesia and dye test with 1% methylene blue were carried out in all cases

excepting small mid-vaginal fistulae.

Cystoscopic examination was done in selected cases of big fistulae (>2cms) to note the position of the ureteric orifices.

Since 5 cases refused surgery only 134 cases underwent surgical repair.

Observations

Out of 14005 gynaecological admissions there were 139 cases of genitourinary fistulae giving an incidence of 1%. Out of 3475 major gynaecological operations fistulae repair comprised 139 cases giving an incidence 4.1%.

Table I and II depict the age and parity distribution of the patients. The highest incidence of 74.8% was among the age group 21-30 years. Two 7 year old girls, one with congenital and another with traumatic fistula comprised the youngest patients. Table III gives educational status and Table IV socio-economic status of the patients.

Among the 139 cases there were 79 (58.8%) Hindus and 56 (40.2%) Muslims while 4 (2.9%) were from other religions.

Table I: Age distribution

Age in years	No	Percentage
<10 years	2	1.4%
17-20 years	15	10.8%
21-30 years	104	74.8%
31-35 years	9	6.5%
> 35 years	9	6.5%
Total	139	100%

Table V: Etiology of V.V.F.

	No	Percentage
1. Obstetric truma	130	93.5
a) Prolonged Obstructed Labour	127	
b) Obstetric Operation		
i) Craniotomy	1	
ii) LSCS	1	
iii) Subtotal hysterectomy for rupture uterus	1	
2. Gynaecological Surgery	5	3.6
i) Abdominal hysterectomy	3	
ii) Radical	2	
3. Carcinoma Cervix	1	} 2.9
4. Radiation	1	
5. Accidental trauma	1	
6. Congenital uretero vaginal	1	

Table II: Parity distribution

Parity	No	Percentage
Nulliparous (unmarried)	2	1.4%
P1 Primiparous	110	79.1%
P2-P3	16	11.5%
P4-7	9	6.5%
P10	2	1.4%

Table III: Educational status

	No	Percentage
Illiterate	84	60.43%
Primary Education	55	39.57%
Secondary Education & Above	Nil	Nil

Table IV: Socio-Economic Status

	No	Percentage
Poor	106	88%
Middle class	33	12%
Upper Middle class	Nil	Nil

Table V shows the causes of the fistulae. Obstetric fistulae comprised 130 (93.5%) out of 139 cases. Remaining cases (6.5%) resulted from gynaecological causes.

Mean duration of obstetric fistulae was found to be 15 months. Highest duration was 24 years.

Table VI shows the types of genitourinary fistulae. Vesico-vaginal fistulae comprised 134 out of 139 cases (96.4%).

Size of the fistulae varied from pin head to admitting two fingers. Uretero-vesico vaginal fistulae were of the biggest size with ureters opening at the margin of the fistulae. Eighteen cases of V.V.F. were of more than 2 cm size.

Table VI: Types of Genito-Urinary Fistulae

	No	Percentage
1. V.V.F.	134	96.4%
a) Simple		
i) Mid VVF	80	
ii) Juxtacervical	19	
iii) Vault	3	
b) Mixed V.V.F.	32	
2. Other types	5	3.6%
a) Uretero Vaginal (Acquired)	3	
b) Uretero vaginal (Congenital)	1	
c) Uretero Vaginal	1	

Treatment

Out of the 139 cases, primary attempts were made to repair those fistulae in 134 cases since 5 cases refused repair.

Table VII shows the routes of approach of repair. Vaginal approach was undertaken in 120 cases (89.6%). Combined vagino-abdominal approach was undertaken in 5 cases (3.7%).

Table VII: Routes of approach of repair

Routes	Numbers	Percentage
1. Vaginal	120	89.6%
2. Transperitoneal	4	3%
3. Extraperitoneal transvesical	5	3.7%
4. Combined vagino abdominal	5	3.7%

Table VIII deals with the methods of repair

Table VIII: Methods of repair

Methods	Number	Percentage
1. Flap splitting	97	72.4%
2. Flap splitting with Martius graft	15	11.2%
3. Latzko's method	3	2.2%
4. Sim's edge paring	5	3.7%
5. Boari's Bladder flap	1	0.7%
6. Neo-implantation of ureter	2	1.5%
7. Abdominal	11	8.2%

Flap splitting (72.4%) was the commonest method of repair. In 15 cases (11.2%) flap splitting method with Martius graft was done. Boari's bladder flap was taken in one case (0.7%). Neo uretero-cystostomy was undertaken in two cases (1.5%). Attempt wise cure rates are highlighted in Table IX.

Table IX: Cure Rate

Cases	First attempt			Second attempt			Third attempt		
	No.	Cured	Cure rate%	No.	Cured	Cure rate %	No.	Cured	Cure rate %
Simple VVF	98	91	92.9%	7	6	85.7%	1	1	100%
Uretero-VVF	11	2	18.2%	9	3	33.3%	6	2	33.3%
Urethro-VVF	11	3	27.3%	8	2	25.0%	6	3	50%
Vesico cervico vaginal Fistulae	1	1	100%	X	X	X	X	X	X
Avulsion of urethra	5	3	60%	2	1	50%	1	Nil	0%
Transection of urethra At bladder neck	4	3	75%	1	Nil	0%	1	1	100%
Uretero vaginal fistulae	3	2	66.7%	X	X	X	X	X	X

Attempt wise success rates spelt that first attempt success rate was 79.1% i.e. 106 cases out of 134 cases, second attempt success rate was 44% i.e., 12 cases out of 27 cases, 3rd attempt success rate was 40.1% i.e. 6 out of 15 cases.

Over all failure rate was 7.5% i.e., 10 cases out of 134 cases.

Morbidity and Mortality

Sixteen cases (12%) developed stress incontinence, 9 (7%) developed urge incontinence and 1 died following repair operation.

Discussion

Genitourinary fistulae make up 0.5 to 1% of all gynaecological admissions in teaching hospitals of the developing countries (Menon et al 1982). In our study genitourinary fistulae comprised 1% of all gynaecological admissions.

Age:- Maximum cases viz. 74.8% fell in the age group of 21-30 years.
Parity:- Primiparous patients consisted of 79.1% of the V.V.F. patients.

In our study majority (60.43%) of the patients were illiterate and of poor socioeconomic status. These are the patients who were unlikely to come for antenatal check up and usually arrive in hospital late in labour, often following interference by untrained dais. In our series all the patients were unbooked with hospital attendance only after prolonged labour.

93.5% of the cases were of obstetric origin with 97.7% of them being due to pressure necrosis of bladder and 2.3% due to obstetric operations. Rao (1975) and Maheswari and Khusalani (1989) reported that 98% and 88% V.V.F. respectively were due to obstetric causes.

Lavery (1955) from Africa reported that 100% cases of V.V.F. were due to sub-standard obstetric care. Mahfouz (1957) reported that majority of obstetric fistulae resulted from pressure necrosis following prolonged obstructed labour.

Rao (1975) reported that 98% of all fistulae were vesico-vaginal, 2% being ureteric.

In our series 4 (2.88%) out of 139 cases were ureteric fistulae. Of the V.V.F. the midvaginal fistulae were the commonest type. Eighty out of 134 obstetric fistulae were of mid vaginal type followed by juxta

cervical type. These figures were similar to figures reported by Rao (1975). Of the gynaecological fistulae, abdominal hysterectomy accounted for 3 (60%) out of 5 cases. Western text books also cite abdominal hysterectomy as the commonest cause of gynaecological fistulae.

Discussion

Most fistulae experts (Lawson 1972, Moir 1965) are of the opinion that almost all vesico-vaginal fistulae can be repaired by vaginal route. In our present series 89.6% cases have been attempted vaginally.

Extraperitoneal transvesical approach through the space of Retzius was made in 10 cases, 5 of which had combined abdomino vaginal approach. These are cases of big uretero vesico-vaginal fistulae (> 2cm) where ureteric openings are close to the margin of the fistulae and also the cases of big urethro-vesico-vaginal fistulae where the upper margin of the bladder fistulae extended upwards retropubically. In the former group ureteric catheters were introduced before dissection of bladder and kept for 6-7 days of postoperative period. Martius graft i.e. fibro muscular tissue from labium majus was applied in 15 cases of vesico-urethro-vaginal fistulae with avulsion of urethra and transaction of urethra i.e. where bladder neck was involved to reinforce the repaired fistulae or urethra. We did not use gracilis muscle graft in any case.

Three complete perineal tear cases were repaired at the same sitting. Of the 4 combined recto-vaginal fistula, 3 were low down and were repaired in the same sitting after cutting the perineum. One case of high recto-vaginal fistula needed preliminary colostomy followed by repair of V.V.F. and R.V.F. in the same sitting transperitoneally.

Postoperative bladder drainage is the most important part of the repair operation. In 90% cases we have given double drainage i.e., suprapubic Mallecot Catheter removed on 14 to 21 days postoperatively and urethral drainage by Foley's catheter for 3-5 days. This double drainage avoids post operative retention of urine due to blood (Jonas and Petri, 1984).

For dissection we have used taper pointed stab knife. We have always freshened the fistulae margins, we have not excluded bladder mucosa during suturing and for repair fistulae we have used 2/0 chromic catgut and 3/0 Vicryl (Polyglycolic).

Conclusion

Obstetric fistula is an indicator of poor obstetric

services and low socio economic conditions in the community. Illiteracy, lack of prenatal care, prolonged and obstructed labour, poor transportation, local customs and traditions contribute to an increasing number of obstetric vesico-vaginal fistulae in the third world countries.

For successful repair of genitourinary fistulae we feel the following guidelines should be followed which also include Sims' (1852) fundamental directives:-

1. Good accessibility with variable Trendelenberg position and liberal use of Schuchardt's incision.
2. Innovative ideas, patience and expertise of surgeons.
3. Repairing without tension.
4. Use of fine suture material.
5. Maintenance of free postoperative drainage.

Lastly we should remember that most fistulae are preventable with obstetric attention and care during gynaecological surgery.

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