



Analysis of vesicovaginal fistulas in Eden hospital - a 10 year study

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OBJECTIVE(S) : To determine the major causal factor of vesicovaginal fistula (VVF) and the outcome of treatment.

METHOD(S) : The study period was from 1st January, 1993 to 31st December, 2002. Total number of patients included in the study was 77. They were analyzed with regard to age, parity, causal factor, mode of treatment, and the outcome.

RESULTS: Obstetric complications were the leading causes of VVF. Majority of the cases were treated surgically by layered method of closure vaginally. Success at primary attempt was 93.33%.

CONCLUSION(S) : Vesicovaginal fistula mainly results from low level of intranatal care and improperly conducted deliveries. Primary closure is successful in 93.33%.

Key words : vesicovaginal fistula

Introduction

The urinary fistulas involving female genital tract result from complications of child birth, and pelvic diseases and their treatment. In developing countries like ours, obstetrical causes are the leading causes of VVF.

The purpose of this study was to analyze the patients with vesicovaginal fistulas (VVF) seen over a 10 year period, and study the etiology and management.

Methods

This retrospective study analyzes 77 cases of VVF seen between January 1993 and December 2002. A detailed history was taken to pin point the causal factor. Detailed examinations were done including - a) examination under anesthesia b) speculum examination c) catheter test d) dye test, and e) three swab test. A complete urinalysis,

cystoscopy, and intravenous pyelography were also done in each patient prior to surgery. The patients were analyzed with regard to 1) age 2) parity 3) site and size of fistulas 4) etiology 5) mode of treatment, and 6) outcome of treatment.

Results

All the patients under study, presented with incontinence of urine. They were 15 to 49 years old and their parity ranged from 1 to 4. Maximum number of patients i.e. 47 (61.09%) belonged to the age group of 20-30 years and the majority were primiparas with history of difficult labor. (Table 1). Table 2 shows the distribution of the patients according to site and size of the fistulas. The maximum number of fistulas i.e. 51 (66.23%) were in the midvaginal location. As regards the size of the fistulas, 48 were between 1 and 2 cm. Table 3 gives the causal factors. It is seen that obstetrical causes overruled the gynaecological ones. 89.61% (69/77) were of obstetric origin and only 10.38% (8/77) of gynecological origin. Five of the six fistulas located in the vault resulted after abdominal hysterectomy and one after vaginal hysterectomy. All the obstetric cases were referred from primary health centers (PHCs) and rural hospitals with obstructed labor of 18-50

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hours due to contracted pelvis. Amongst the obstetrical causes, obstructed labor was the major cause in 54 out of 69 (78.28%) patients, followed by instrumental deliveries in 14 out of 69 (20%). The 14 instrumental deliveries included five deliveries in rural hospital, and six craniotomies and one evisceration done in district hospital. The one fistula following cesarean section occurred in our hospital in a patient referred for obstructed labor.

Five of the eight gynecological fistulas followed abdominal hysterectomy and one followed vaginal hysterectomy for genital prolapse. All of them had hysterectomy in private nursing homes in the periphery except the one who had abdominal hysterectomy in a district hospital. All the five abdominal hysterectomies were difficult –four had endometriosis and one had a cervical fibroid. A patient with carcinoma cervix and one following radiotherapy were from our hospital both of whom could not be operated due to poor general condition and poor prognosis as one had carcinoma cervix staged IV A (died on 5th day of admission), and one of stage IV B cervical cancer had radiotherapy in another teaching hospital 4 months back, and died in our hospital 6 days after admission for VVF.

Seventytwo (96%) patients were repaired vaginally by layered closure. Three had failure and were successfully repaired again vaginally. Abdominal approach was resorted to in three patients, who had a very high fistula of more than 2 cm with margins not reachable vaginally. In two of them the repair failed. In both of them second attempt also failed. Both refused a third attempt. One of them had two normal deliveries subsequently.

First attempt at repair was successful in 70 (93.33%) cases. Failure after primary attempt was seen in five cases, two after abdomino-vaginal route and three following vaginal route. Failure after secondary attempt was seen in two patients, both had abdomino-vaginal approach and both of them refused a 3rd attempt. The patients who had failure following 1st and 2nd attempt had fistulas of > 2 cm. One of the vaginal route failure cases refused 2nd attempt and went home. Subsequently she conceived, attended our antenatal department, refused admission for elective cesarean delivery, came in advanced labor at 8 cm cervical dilatation and delivered 1.8 kg baby spontaneously. Subsequently she had another pregnancy, received no antenatal care, came too late in labor and delivered a 2 kg baby spontaneously. Two cases which developed VVF following carcinoma cervix and radiotherapy were not suitable for repair.

Table 1. Distribution of cases according to parity and age group (n=77).

Parity	Number	Age group (year)	Number
0	6 (7.79%)	<20	12 (15.58%)
1	29 (37.66%)	20-30	47 (61.03%)
2	21 (27.27%)	>30	18 (23.37%)
3	15 (19.48%)		
4	6 (7.79%)		

Table 2. Site and size of the fistulas (n=77).

Size	Number	Site	Number
<1.0 cm	20 (25.97%)	Midvaginal	51 (66.23%)
1.0-2 cm	48 (62.33%)	Juxtacervical	20 (25.97%)
> 2 cm	9 (11.68%)	Vault	6 (7.79%)

Table 3. Etiology.

Obstetrical (n=69;89.61%)			
Obstructed labor	54	(78.26%)	
Instrumental delivery	14	(20.28%)	
Craniotomy	8		
Forceps	5		
Evisceration	1		
Lower segment cesarean section	1	(1.44%)	
Gynecological (n=8 ;10.38%)			
Abdominal hysterectomy	5	(62.50%)	
Vaginal hysterectomy	1	(12.50%)	
Carcinoma cervix	1	(12.50%)	
Radiotherapy	1	(12.50%)	

Table 4. Outcome of treatment (n=77).

Outcome	Number
Successful at primary attempt	70 (93.33%)
Failure after primary attempt	2 (2.66%)
Following abdomino-vaginal route	3 (4%)
(Following vaginal route)	
Failure after secondary attempt	2 (2.66%)
Following abdomino-vaginal approach	
Both refused further surgery	

Discussion

The anatomical proximity of the urinary and genital tracts predisposes the urinary tract to injury after difficult and traumatic deliveries as well as after difficult gynecological surgery. Although gynecological surgery accounts for the majority of the VVF in developed countries, the scenario is completely different in developing countries where proper intranatal care is still not available and hence obstetric causes remain the leading causes of vesicovaginal fistulas.

In our series the incidence of VVF arising out of obstetrical complications was 89.61% (69/77) ; 54 obstructed labor, 14 instrumental delivery and one lower segment cesarean section. In the study conducted by Tahzib ¹ from Nigeria, another developing country, the incidence of VVF because of obstructed labor was 83.8%.

On the other hand a study of etiological factors in the 177 vesicourethrovaginal fistulas that were repaired at the University of Iowa hospitals between 1926 and 1976 showed that 3/4ths of the fistulas were related to some type of gynecological surgery ². In the developed countries most of the obstetric fistulas occurred before 1940 ³.

Lee et al ⁴, in a series of 35,000 hysterectomies found that more than 80% of genitourinary fistulas arose from gynecological surgery for benign disease. Uncomplicated total abdominal hysterectomy accounted for more than 70% of these surgeries. The indications for these hysterectomies excluded the more complex diagnosis, such as pelvic inflammatory disease (PID), endometriosis, and carcinoma. Instead they were performed for conditions like abnormal bleeding, fibroids, or prolapse. Ten percent cases were with associated obstetrical trauma and 5% following radiotherapy or oncosurgery.

The success rate in our study was 93.33% at primary attempt.

Another study of 14 cases of urinary fistulas in Patna Medical College showed successful repair in 13 out of 14 cases (92.8%) ⁵. Only one case had failed in that series which occurred following forceps extraction and was referred after four attempts of failure. A study carried out by Sarkar et al ⁶ showed a cure rate of 92.9% at primary attempt in cases of VVF. The results of these studies are comparable with ours.

Most of the VVFs can be repaired by vaginal route. In our study 96% were repaired by vaginal route. The fistulas were closed by layered method of closure – bladder repaired in two layers with No.3-0 vicryl. Postoperatively the bladder was drained with Foley's catheter for 14 days.

Conclusion

Vesicovaginal fistula has a profound effect on patients emotional well being. It results in a social stigma apart from the medical sequelae. As the obstetric causes add up to form a major share of the etiology proper intranatal and natal management is most important. This highlights the need of competent personnel for intrapartum care so that the chances of fistula formation are reduced.

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