

Analysis of Vesicovaginal Fistulas in Tertiary Care Hospital - A 12 Year study

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Abstract

Introduction The earliest evidence of a Vvf was found in 1923, when Derry examined the mummified body of henhenit, a lady in the court of mentuhotep of the 11th dynasty who reigned around 2050 Bc. 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.

Objectives: To determine the major causal factor of vesicovaginal fistula (Vvf) and the outcome of treatment.

Methods: This retrospective study was conducted from 1st January, 1994 to 31st December, 2006. At Vijayanagara Institute of Medical Sciences Bellary. Total number of patients included in the study was 40. 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%.

Conclusions: Vesicovaginal fistula mainly results from low level of intrapartum care and improperly conducted deliveries. Primary closure is successful in 93.33%.

Keywords: Vesicovaginal Fistula, Obstructed labor



Introduction

The earliest evidence of a Vvf was found in 1923, when Derry examined the mummified body of Henhenit, a lady in the court of mentuhotep of the 11th dynasty who reigned around 2050 Bc. These dissections revealed a large Vvf in a markedly contracted Pelvis. The Kahun Papyrus and Ebers Papyrus failed to mention Vvf. However, not until 950 Ad did avicenna correlate the combination of pregnancy at a young age and difficult labor with the formation of a vesicovaginal communication. The term *Fistula* (previously called Ruptura) was not used until 1597, when Luiz De Mercado first coined the term. 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 12 year period, and study the etiology and management.

Methods

This retrospective study analyzes 40 cases of Vvf seen between January 1996 and December 2006. 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 intraveous 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 3. Maximum number of patients I.E. 23 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.24 were in the midvaginal location. As regards the size of the Fistulas, 10 were between 1 and 2 cm.

Table 3 gives the causal factors. It is seen that obstetrical causes overruled the gynaecological ones. (32/40) were of obstetric origin and only (8/40) of gynecological origin. Five of the eight 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 20-40 hours due to contracted pelvis. Amongst the obstetrical causes, obstructed labor was the major cause in 19 out of 40 (78.28%) patients, followed by instrumental deliveries

in 9 out of 32. The 7 instrumental deliveries included five deliveries in rural hospital, and three 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. Seventy two (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. 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=40)

Parity	Number	Age	Number
0	3	<20	6
1	20	20-30	23
2	10	>30	11
3	7		

Table 2: Site and size of the fistulas (N=40)

Size	Number	Site	Number
<1.0 cm	10	Midvaginal	24
1.0-2 cm	24	Juxtacervical	10
> 2 cm	6	Vault	6

Table 3: Etiology

Obstetrical	N=40	Percentage
Obstructed Labor	19	
Instrumental Delivery	7	
Craniotomy	3	
Forceps	2	
Evisceration	1	
Lower Segment Cesarean Section	1	
Gynecological		
Abdominal Hysterectomy	5	
Vaginal Hysterectomy	1	
Carcinoma Cervix	1	
Radiotherapy	1	

Table 4: Outcome of treatment (N=40)

Outcome	Number	Percentage
Successful At Primary Attempt	33	
Failure After Primary Attempt		
Following Abdominovaginal Route	2	
(Following Vaginal Route)	3	
Failure After Secondary Attempt	2	
Following Abdominovaginal Approach		
Both Refused Further Repairs		

Discussion

The magnitude of the fistula problem worldwide is unknown but believed to be immense. In Nigeria alone, Harrison (1985) reported a vesicovaginal fistula rate of 350 cases per 100,000 deliveries at a university teaching hospital. The Nigerian Federal Minister for Women Affairs and Youth Development, Hajjiya Aish M.S. Ismail, has estimated that the number of unrepaired VVFs in Nigeria is between 800,000 and 1,000,000 (2001). In 1991, the World Health Organization identified the following geographic areas where obstetric fistula prevalence is high: virtually all of Africa and south Asia, the less-developed parts of Oceania, Latin America, the Middle East, remote regions of Central Asia, and isolated areas of the former

Soviet Union and Soviet-dominated eastern Europe^{1,9,10}. Female Genito Urinary Fistulae represent unpleasant health conditions caused by disabling child birth or complication of urogenital injury resulting in true incontinence. These patients suffer physically, emotionally and also represent a big social problem.⁷ Genito-Urinary Fistula is the main problem among women of child bearing age in developing countries.^{7,8} 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% (32/40); 19 obstructed labor, 7 instrumental delivery and one lower segment cesarean section. In the study conducted by Tahzib¹ 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 surgery². In the developed countries most of the obstetric fistulas occurred before 1940³. Lee et al⁴, 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 al⁶ 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 patient's 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 intrapartum and postnatal 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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