VESICOVAGINAL FISTULA: AN EXPERIENCE OF 30 CASES AT AYUB TEACHING HOSPITAL ABBOTTABAD

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Background: Vesicovaginal fistula (VVF) is a disease that is rare in developed world but is frequently seen in poorer countries. It is mostly a result of gynaecological or obstetrical procedures. This study reports our experience of VVF. **Methods:** This study was carried out at department of Urology, Ayub Teaching Hospital, Abbottabad from June 1998 to June 2004. Detailed history was taken to record age, nature of trauma, time interval of appearance of fistula and previous attempts of repair if any. In addition the results of repair were evaluated. **Results:** During this six years study period a total of 30 cases of urinary incontinence due to VVF were referred from Gynaecology and Obstetrics department for management, many gave history of birth trauma resulting in leakage of urine per vaginum. Majority of patients with VVF were between 21-40 years of age. All the patients presented with total incontinence of urine. Most common etiological factor was obstructed labour (63.33%). The other factors were caesarian section (13.33%), hysterectomy (13.33%), forceps delivery (3.33%) and bladder calculus (3.33%). A single case was due to carcinoma cervix and post irradiation (3.33%). Three out of 30 patients had one or more previous fistula repair attempts, while in the rest repair was not attempted before. We carried out transvesical repair in all patients, 80% of patients were completely cured and symptom free, 10% had stress incontinence with frequency of micturition but no vaginal leakage. Failure was 10%. **Conclusion:** VVF is frequently encountered in Hazara division of Pakistan. It is mostly due to obstetrical causes.

Keywords: Vesicovaginal Fistula, urology, incontinence

INTRODUCTION

Vesicovaginal fistula (VVF) represents a significant morbidity in female urology. Uncontrolled leakage of urine into the vagina causing incontinence is the hallmark symptom along with odour and discomfort which causes serious social problems.

In developed countries the most common cause of VVF remains iatrogenic injury during Gynaecological surgery.[1] Obstetric VVF due to obstructed labour has long been eradicated from the developed world,[2-3] but it remains a major problem in developing countries like Pakistan.[4]

Obstetric VVF has been found to be primarily an ailment of the young primigravida.[5-6]

World Health Organization estimates that in the developing countries, 5-million women each year suffer severe maternal morbidity, obstetric fistulae being on the top of the list.

The objective of this study was to study the patients with VVF in relation to age of the patient, nature of trauma, time interval of appearance of fistula and repair, the route of repair, the number of previous attempts and to evaluate the results of repair in order to improve our prevention and treatment strategies.

MATERIAL AND METHODS

This study was carried out at department of urology, Ayub Teaching Hospital, Abbottabad in collaboration with gynecology and radiology departments from June 1998 to June 2004.

Thorough physical examination was carried out to assess the number, site and size of fistula. Urine culture was carried out done in each case and appropriate antibiotics given. Hemoglobin estimation, Blood group and Rh factor to rule out anaemia and correction prior to surgery were done. Renal function tests and blood sugar levels were carried out.

X-Ray KUB to rule out renal calculi and IVU to rule out any renal tract anomalies was also done. Cystography and cystoscopy accompanied by examination under anesthesia were carried out to evaluate the extent of injury, to assess and decide the route of operation and patient's position during surgery.

RESULTS

During this six years study period a total of 30 cases of urinary incontinence due to VVF were referred from Gynaecology and Obstetrics department for management, many gave history of birth trauma resulting in leakage of urine per vaginum. Majority of patients with VVF were between 21-40 years of age (table-1).

All the patients presented with total incontinence of urine. Most common etiological factor was obstructed labour (table-2)

The other factors were caesarian section, hysterectomy, forceps delivery, bladder calculus. A single case was due to carcinoma cervix and post irradiation.

Table-1: Distribution of women with VVF according to age group (n=30)

Age group of patient	Number of cases	%
< 20	02	6.67
21-30	16	53.33
31-40	11	36.67
41 and above	01	3.33
Total	**30**	**100%**

Three out of 30 patients had One/more fistula repair attempts, while in the rest repair was not attempted before. We carried out transvesical repair in all patients, 80% of patients were completely cured and symptom free, 10% had stress incontinence with frequency of micturition but no vaginal leakage. Failure was 10% (table-3)

Table-2: Causes of VVF (n=30)

Causes	Number of patients	%
Obstructed labour	19	63.33
Lower segment CS	4	13.33
Hysterectomy	4	13.33
Difficult forceps delivery	1	3.33
Bladder calculus eroding in vagina	1	3.33
Post irradiation Ca cervix	1	3.33

Table-3: VVF Repair results (n=30)

Result	Number of patients	%
Cure (fistulae closed no symptoms.	24	80%
Fistula closed but presented with frequency and stress incontinence	3	10%
Failure	3	10%

DISCUSSION

Most cases of VVF in developing countries result from obstetrical causes. Pakistan is the seventh most populous country of the world with a population over 140 million. Out of total births, about 95% occur in rural areas and 60-70% in urban areas which are conducted by traditional birth attendants (TBA's). Birth trauma is due to generally prolonged and difficult home deliveries which cause ischaemic necrosis of the vaginal vault and posterior bladder wall. In few days, they slough off and patients start passing urine per vaginum. The high frequency of VVF in Pakistan reflects the low socio-economic status and lack of proper obstetrical cover. A study presented in a conference in 1988[9] reported the frequency of VVF to be 0.8% of the admissions in Gynae units.

In developed countries with advanced health care, most VVF cases are the result of Gynaecological procedures like difficult hysterectomies. A small group may be due to carcinoma of cervix and radiation therapy for it.

A striking 2 % prevalence has been reported from Africa. A study from Africa in 1992 reported statistical analysis of 230 cases of vesico-vaginal fistula. The fistula was obstetrical in 93 % of these cases, occurring in young women and primiparas.[10] A recent Nigerian article reported 8 years experience of 932 fistulas. Out of these 899 cases (96.5%) were associated with labor and delivery. Most of their patients were thin, short, married early, mostly divorced or separated, uneducated, poor and were from a rural area. Most of them had developed fistula as a primigravida during a labor that lasted at least 2 days and which resulted in a stillborn fetus.[11]

With advance in literacy rate and improvement in surgical techniques there is an increasing tendency to early repair instead of delayed.[12] A study recommended a minimum of a 4-6 week's wait from the onset of the fistula.[13]

After suspecting a VVF a thorough vaginal examination should be performed to identify its size and location, especially in relation to the trigone and eliminate a ureterovaginal fistula which can be associated in up to 10% of cases. Numerous methods for the treatment of vesicovaginal fistulae have been described. Abdominal, and vaginal approaches are used for the repair of vesicovaginal fistulae. The approach selected is dependent on many factors, but is probably best determined by the experience and training of the surgeon.[14] Management of these fistulas has been better defined and standardized over the last decade.[13]

The techniques of the vaginal approach involve tension-free closure of the fistula with or without excision of the tract, creation of an anterior vaginal wall flap and appropriate use of vascularized interposition grafts. The abdominal approach may be used to treat all types of vesicovaginal fistulae and is the preferred approach when concomittant ureteral reimplantation is required.[14]

The vaginal repair techniques can be categorized as to those that are modifications of the Latzko procedure or a layered closure with or without a Martius flap.[13] The success rate of vesicovaginal fistula repair is improved by tissue interposition. The

Martius flap produces reliable results but it has increased morbidity. A peritoneal flap is easily created with minimal morbidity and it can be used for proximal fistulas and it has minimal morbidity, results in a success rate comparable to that of the Martius flap and is especially useful for proximal fistulas when previous repair has failed.[15]

Postoperative care is similar for both vaginal and abdominal vesicovaginal fistula repair. Adequate uninterrupted bladder drainage is the most critical aspect of postoperative management. A voiding cystourethrogram is performed at 10 postoperative days to confirm closure of the fistula.[14]

Small fistulae may heal on conservative measures such as retaining Foley's catheters and elevation of the head of the bed.[8]

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