Vesicovaginal Fistula at Tertiary Care Center in Eastern Nepal

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ABSTRACT

Vesicovaginal fistula is physically, socially and psychologically devastating to the women who suffer from it. The aim of this study is to create some awareness about VVF, to describe the profile of the patients, etiology, and success rate of surgery in our institute.

A retrospective analysis of a total of 23 cases of vesicovaginal fistula admitted to the Department of Gynecology and Obstetrics, BPKIHS over a period of three years were included in the study. The cause of VVF in all was obstructed labor except in one, which followed abdominal hysterectomy. Twenty-three subjects underwent VVF repair, of which 14 (56.5%) had successful outcome.

Key words: *genitourinary fistula, maternal mortality, obstructed labor, vesicovaginal fistula.*

INTRODUCTION

Globally about 3.5 million women are living with genitourinary fistula, a miserable condition.[1] Obstetric Vesicovaginal fistula (VVF) is exceptionally rare in developed part of the world, where it is mostly due to gynaecological cause i.e. complication of hysterectomy, gynaecological malignancy and radiotherapy.[2] Rarely it may develop as a result of coital injury or other trauma.[3] In developing countries in about 90-95% of cases are attributed to obstetric injury.[2,4,5]

Small VVF (<1cm) may heal on conservative treatment if treatment started before epithelialization with continuous catheter drainage for 6-8 weeks. Bigger fistulas and long standing ones need surgical intervention.[6] Surgery may be performed through vaginal route or through abdominal approach. The choice of approach in a particular patient depends on location of fistula, presence or absence of vaginal stenosis and experience of the surgeon. To increase vascularity, improve lymphatic drainage and provide support to the repaired tissue, synthetic and tissue graft interposition in between bladder and vaginal mucosa is done. In vaginal approach Martius fat graft and in peritoneal approach omental interposition is commonly performed. But free bladder mucosal autograft, peritoneal graft, anterior rectus sheath, ileal graft and even human duramater is used with success.[6]

MATERIAL AND METHODS

This is a retrospective descriptive study of patients admitted with VVF in gynaecological ward of BPKIHS. Study period ranged from Jan 2005 to Dec 2007. Hospital records of the patients were retrieved and analyzed. For this permission was taken from institute's ethics committee.

All the patients were admitted one week prior to the day of surgery after obtaining informed consent. Routine

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preoperative investigations were done. Urine sample was obtained with sterile Sim's speculum and sent for culture and sensitivity. If urine culture was positive for microorganisms or urine microscopy showed more than five pus cells, appropriate antibiotic therapy was initiated and continued postoperatively for 10 days. In remainder of the patients prophylactic amikacin was given. Urine culture was repeated on the third postoperative day. Ultrasonography of abdomen and pelvis was done to rule out urolithiasis. All fistulas were repaired with layer closer method; excision of fistula margin was not done to prevent its enlargement. Post operative continuous catheter drainage was maintained with transurethral or suprapubic foley catheter. If there was no leak for 14 days, gentle sterile speculum examination and methylene blue test were done before catheter removal. After removal of the catheter the patients were advised to drink plenty of liquids and to void frequently. The patients were discharged from the hospital 24-48 hours after removal of the catheter. Surgery was considered to be successful if patient can hold urine, and there is no leakage of urine in between the act of voiding after removal of catheter and before discharging from the hospital.

RESULTS

Twenty three patients with VVF were included in the study. During the study period (Jan 2005-Dec 2007) 3722 patients got admitted in the gynaecology ward of BP Koirala Institute of Health Sciences. Patients with VVF accounted for O.61% of the gynaecological admission in this institute. Twelve patients were from the hills, 11 were from sub-tropical plains of Eastern Nepal. Age of the patients ranged from 18 to 50 years (Mean ± SD = 34.35 ± 9.16years). Parity ranged from Para 1 to 9. Nine (39%) developed fistula in their childbirth and 7 of them (30%) had no living child. All were as a result of obstetric cause, except one, which was after total abdominal hysterectomy for chronic pelvic pain. The duration of symptoms ranged from 4 days to 30 years.

Anatomically the juxtacervical type of fistulas was more common (Table 1).

Of the total of 23 patients, three were operated with abdominal route (two with transvesical and one trans-peritoneal). One of those three patients had 8X8 cm vesicle calculus, she underwent suprapubic cystolithotomy and transvesical trigonal fistula repair in the same sitting. Twenty patients were operated through vaginal route, of which labial fat graft interposition was done in one. Thirteen (56.5%) patients out of 23 had successful outcome.

Table 1. Anatomical types of the fistulas

Type	No.	%
Juxta urethral/Bladder neck	9	39.1
Mid vaginal	4	17.4
Juxta Cervical	10	43.5
Total	23	100

Table 2. The obstetrical details and causes of VVF

Causes	No.
Obstetrical cause	
Spontaneous vaginal delivery after prolonged and difficult labor	8
Emergency lower segment cesarean section	6
Destructive surgery (delivery)	4
Difficult forceps delivery	2
Ruptured uterus	2
Gynaecological cause	1
Total	23

DISCUSSION

As in other developing countries, in 95.6% of cases obstructed labor was responsible for causing VVF in our series. In 39%, it developed after first child birth which is comparable with 45.8% in Nigerian study.[2] As described in Ethiopian and Nigerian studies teenage pregnancy or pregnancy before full maturation of pelvis is not common in our series. Out of nine primiparas eight had age more than 25 years. However, the fact that seven primiparas in our study survived with no child indicates inadequate maternity services in the country. In labor ward of most of the tertiary care centers and teaching hospitals of Nepal, destructive surgery is not commonly practiced due to easy availability of much safer alternative like cesarean section. Four of our patients developed VVF after destructive surgery which was performed in district hospital. Emergency caesarean section done in very late stage of obstructed labor when ischemic tissue injury has already taken place may lead to VVF. This is the reason why six (26%) patients had fistula following emergency cesarean section. It is, therefore, advisable to explain this possibility before surgery to the patient and the relatives. In this series successful outcome was attained only in 56% of cases, which is much lower than other reported series (92-97%).[2,6,7] A study from eastern part of Nepal has reported 82% of successful closure of VVF in previous report.[5] Decrease in success rate may be due to inclusion of more difficult fistulae or due to repair with various level of experience. Evans et al in their retrospective review of 37 cases, which were performed through abdominal route observed that their success rate were 100% and 63% with and with out using omental interposition respectively.[6] The other factors, which could influence the outcome, have not been studied in this series due to unavailability of information in the records.

Since obstetric bladder injury is a diffuse type of injuries, which may have devastating effect in the patient's life. A study has described the condition as "Obstructed labor injury complex".[1] Patient with VVF may be suffering from urethral incontinence, secondary amenorrhea, infertility, loss of sexual function (due to stenosis and shortening of vagina), rectal incontinence, foot drop and social, psychological and economic consequences. In this study these aspects were not covered.

An author from Ethiopia, with experience of repairing 25,000 urogenital fistulas quotes "The women with VVF come with only faith, hope and urine soaked clothes".[8] A failed attempt to repair a VVF yields one of the most demoralized patients. So every effort should be made to increase the success rate of closure in the first attempt. This may be attained by pre-operative improvement in the nutritional status, treating urinary infection, treating vulval excoriation, planning surgery in post menstrual period and performing surgery by most skilled person without keeping eye on watch and mind on tea.

CONCLUSION

Obstructed labor is the most common cause of VVF in Eastern Nepal. The success rate of VVF repair is found to be 56.5%, which is much lower than previous report. Obstetric urogenital fistula is a preventable condition. Women need to travel a long distance to reach a facility where caesarean section is performed. If functional capacity of our health infrastructure is improved, this will help to prevent misery of obstetric urogenital fistula and maternal mortality. It is also important to increase awareness about the vesicovaginal fistula and more gynaecologist should be trained to treat this condition.

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