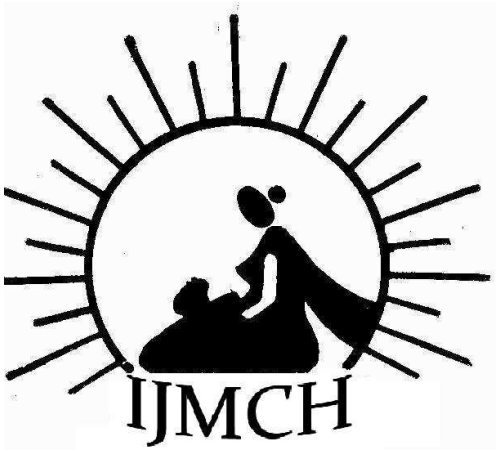
Volume 12 (1), 2010

Urogenital Fistula: A Five Year Review Study in a Tertiary Care Hospital in North India

Tripathi Vrijesh
Salhan Sudha
Gaikwad Harsha S

www.ijmch.org



INDIAN JOURNAL OF MATERNAL AND CHILD HEALTH

Urogenital fistula is one of the most dreaded complications of obstetric trauma in developing countries where gynecological operative trauma accounts for most of genital tract fistula.

Urogenital Fistula: A Five Year Review Study in a Tertiary Care Hospital in North India

Tripathi Vrijesh,* Salhan Sudha,^ Gaikwad Harsha S,***^**

***Lecturer, DMCS, Faculty of Science and Agriculture The University of West Indies, St Augustine, Trinidad and Tobago,**

**** Professor, Consultant and Head,**

***** Assistant Professor, ^Department of Obstetrics and Gynecology V.M. Medical College and Safdarjung Hospital, New Delhi.**

Correspondence: Dr. Vrijesh Tripathi,

E mai Vrijesh.Tripathi@sta.uwi.ed

ABSTRACT

Objective: Urogenital fistula is one of the most dreaded complications of obstetric trauma in developing countries where gynecological operative trauma accounts for most of genital tract fistula. Management of these fistulas is not always successful after the primary repair causing disappointment to the patient as well as the surgeon. The operative success in developing countries ranges from 60-90%. The present study reviews the main causes of fistulas, the method of repair and the success rate.

Method: Between 1999 and 2003, 38 vesico-vaginal fistulas were treated in VMMC and Safdarjung Hospital, New Delhi, India. They have been studied with respect to the causative factors like age, parity, nutritional status, size of fistulas, surgical techniques and the success rate.

Results: The overall operative success rate in this review was 89.4%. The most common cause of fistula was obstructed labour (73%), followed by Cesarean hysterectomy (7.9%), medical termination of pregnancy, cesarean section and abdominal hysterectomy contributed equally (5.3%) and instrumental delivery was found in 2.6% of patients. Vaginal approach was utilized in 35 cases for anatomical closure. Modified Martius graft technique was performed in 2 cases and abdominal repair in 1 case.

Key words: Urogenital fistula, Obstructed labor, Cesarean section.

INTRODUCTION

The estimated incidence of urogenital fistulas (UF) due to obstetric causes in developing countries is around 2 million every year (1). It has become a rarity in the developed countries. In the developing countries the most common cause of urogenital fistulas is obstructed labor (80-90%) while gynecological operations constitute a major cause in developed countries (0.3%). The morbidity, suffering and social rejection of such patients due to offensive odour that may persist over long periods of time remains one of the most burning issues in reproductive health. Most labors which result in fistula are also associated with stillbirth and subsequent infertility is frequent (2). Early marriage, teenage pregnancy, poor nutritional status, low educational levels, lack of modern obstetric care and poverty contribute to the overall health of women and also form a background for developing UF (3-6). The initial surgical repairs are not always successful at primary attempts due to supplementary causes that led to its formation that is, poor nutritional status, large sized fistulas, high infection rates that set a vicious cycle of suffering, disappointment and loss of faith in existing medical system. (7)

In India, with improving health care system in general and maternal health care in particular, the incidence of UF as a result of Obstetric complications has decreased considerably (8,9). Gone are the days when presence of vesico-vaginal fistula patient in the gynecological OPD halls was conspicuous and obvious by the typical smell of urine. This has been thanks to the persistently increasing awareness of institutional and supervised deliveries combined with early or timely transportation of patients prone to develop complications particularly obstructed labor at the grass root level of Indian health care system. A review of available literature reveals that most work on this topic was done during the period 1964-74 when 11 papers were published on this topic from India. As days passed, it became a less pressing problem in India. During the sixth decade of the last century the average number of fistula patients reporting to tertiary hospitals was about 27 a year (10). Recent studies conducted in last decade of the century showed the average of about 6 cases per year as reported in a hospital based study. (9)

DATA

This is a record review study carried out at Vardhaman Mahavir Medical College and Safdarjung Hospital, Department of Obstetrics and Gynecology, India. This department has a turnover of about 20,000 patients annually combining both Obstetrics and Gynecology admissions. It is a tertiary care referral centre which caters to the needs of mostly (retained because it caters to government employees as well) poor and underprivileged patients residing in remote areas with virtually absent or inadequate obstetric care. The medical records of all of 38 patients with UF admitted for management during the period of 1999-2003 were studied in details for age, place of residence, weight , obstetric history, duration from childbirth, operations if any, type and size of fistula, its number, associated conditions, surgical approach and technique of repair.

SURGICAL PROCEDURE

The most important indication for abdominal approach is improper exposure of high or retracted fistulas usually with a stenosed vagina. Surgeons observed that the method of bladder closure was all important as compared to vaginal wall closure. After proper positioning and exposure of the fistulae, the fistulous tract was excised, the bladder wall was mobilized from the vaginal wall, the edges were freshened, and bladder wall was closed in two layers, first by continuous and second by interrupted sutures with 3-0 polyglycolic suture on a small needle. Integrity of the suture line was checked by instillation of methylene blue before closure of the vaginal wall with interrupted sutures. Modified Martius graft procedure that was used in a few cases, involved anatomical repair of fistula closure as mentioned above till the bladder wall is closed. A vascular pad of fat from labia majora was mobilized, interposition and sutured over the bladder at the site of fistula, keeping the blood supply of the pedicle intact. The anterior vaginal wall flap was closed finally over this graft.

Post operative management comprised of general nursing care, continuous catheterization for 3-4 weeks, antibiotics, stool softeners, vitamin C supplementation and abstinence for a minimum of 3 months (to those who showed clinical signs of successful repair).

RESULTS

In our series the average number of cases reported was 7 per year. In the present review of 38 patients, the age range was 14-38yrs, mean age being 25.89 years. The mean weight was 41 kg (heaviest patient in the group was 54 kg). Twenty women had given birth to 2 or more children before developing vesico-vaginal fistula. Of the 11 patients with history of obstructed labor were nulliparous, 4 were teenage pregnancies. Twenty cases had delivered at home which remains a primary mode of delivery in the rural areas and six were referred from primary health centers that cater to urban and rural populations. Excluding the gynecological causes, the average duration of symptoms from last childbirth to evaluation was 10 months (Table 1). The symptoms of urinary and/or faecal incontinence started as early as five days after the responsible event.

Table 1: Mean of variables

Variable	Mean
Age in years	25.89±6.07
Weight in kg	41±4.2
Parity	2.4
Live issues	1.38
Last child birth in months	10.79±5.00
Size of fistula in cm	2.3×1.3

The etiological classification is shown in Table 2. It is evident that history of obstructed labor in 73% patients dominated as a causative factor in development of vesico-vaginal fistula. The second common cause was noted in 3 cases on whom caesarean

Table 2 Etiological classification

Etiological or predisposing factor	Number of cases (%)
Obstructed labour	28 (73.7)
Cesarean Hysterectomy	3 (7.9)
Medical termination of pregnancy	2 (5.3)
Cesarean section	2 (5.3)
Abdominal hysterectomy	2 (5.3)
Instrumental delivery	1 (2.6)

Table 3: Type of repair

Surgical approach	Number of cases
Vaginal route (Anatomical repair)	35 (92.2%)
Vaginal route with modified Martius graft	2 (5.2%)
Abdominal repair	1 (2.6%)

Table 4: Site of fistula

Location of fistula	Number of cases (%)
Mid-vaginal	30 (38%)
Vaginal apex	45(58%)
Bladder neck	3(4%)

hysterectomy was done. All the 3 cases had an irreparable uterine rupture-one had a previous caesarean section for transverse lie while the other 2 cases had cephalo-pelvic disproportion with obstructed labor. All the three patients were referred from village practitioners and were in labor for over 48 hours. For the 2 cases that developed vesico-vaginal fistula following caesarean section, one was from two prior cesarean sections with obstructed labor and a previous caesarean section with central placenta previa in the other. Complications arising out of termination of pregnancy performed by lay personnel with "instruments" led to the formation of vesico-vaginal fistula in 2 cases. One of these was a primigravida in whom forceps application was done at a private hospital, developed a perineal tear immediately, and followed by incontinence of urine from day 3 after delivery. As long as gynecological causes are concerned we had 2 cases of abdominal hysterectomy that developed incontinence of urine on the sixth and seventh postoperative day performed for multiple fibroids and dysfunctional uterine bleeding respectively.

In our series, 92% cases had undergone repair by vaginal route (Table 3). Associated morbidities like perineal tear was found in 8 cases, vulval excoriations were seen in 12 cases

and bladder calculus was found in 1 case. Modified Martius graft method was used in 2 cases who had earlier failed anatomical repair of multiple fistulas. Both cases were declared cured after this repair. In one case abdominal route of repair was chosen for a 3 cm sized fistula at the vaginal apex which had failed twice before when repaired vaginally. Supra pubic as well as urethral catheterization was done and continued for 3 weeks post–operatively. The repair was successful.

Of all the 38 fistula repairs, 22 were reported cured at the first attempt, 16 cases had second repair at the same hospital after a gap of 6-8 months. Out of these 16 cases, 10 had healed completely, 4 were lost to follow up, 2 had successful third attempt at repair (one had abdominal repair and the other was treated by modified Martius graft technique). Both these cases were able to pass urine normally after three weeks of continuous catheterization. The results showed that 58% of cases were cured after first attempt at repair and 32% were cured after more than one attempt. The overall success rate in this review was 89.4%.

DISCUSSION

In our series there was one case of fistula at the bladder neck following 12 hours after forceps delivery. In patients with cesarean section the leakage was noted in less than 24 hours. It was noted that cases who had breakdown of primary repair had large (>3cm) or multiple fistulas. This is in accordance with other studies. The incidence of primiparas in our series was 28% as compared to other studies (11-15). A WHO report states that this figure varies from 30% in India to 95% in Pakistan. The same varies from 50-80% in Africa (16). In this review the incidence of teenage pregnant mothers who developed fistulas was 10.5 %. The WHO study states that 48% women were below 20 years in Asia while this proportion was 50-80% in Africa (16). The causative obstructed labor was due to cephalo- pelvic disproportion and contracted pelvis in very young mothers who had conceived soon after menarche, even before growth of pelvis is complete. Slough injuries following pressure necrosis in prolonged obstructed labor have been totally eliminated from the Western world but the problem is still lingering in our country though to a lesser extent as compared to other developing countries (11). Unlike post surgical vesico-vaginal fistula, the obstetric fistula is the result of a gradual injury over short period of time to a broad area of soft tissue jammed between the presenting parts of the fetus, usually head and the maternal bony pelvis for a considerable length of time during labor. Such an injury can result in multiple birth-related traumatic assaults in addition to vesico-vaginal fistulas, that is, urethral loss, stress incontinence, cervical destruction, recto-vaginal fistula, rectal or vaginal atresia, anal sphincter incontinence, amenorrhea, pelvic inflammatory disease, secondary infertility and sometimes even foot drop.

Concerted attempts have been made to implement UNFPA strategies such as antenatal screening, skilled delivery attendance, improved access to emergency obstetric care, early detection of potential cephalopelvic disproportion and timely access to safe delivery (2). Various government programs on maternal and child health care variously titled Child Survival and Safe Motherhood (CSSM), Maternal and Child Health(MCH), Matru Suraksha Sewa Abhiyan(MSS), Reproductive and child health(RCH) (17) are largely responsible for a decline in this once serious morbidity. These programs aim at increasing awareness of good antenatal, intra-natal and postnatal care. The Auxiliary Nurse Midwives (ANM) at various

levels is imparted knowledge to detect high risk cases at the earliest and their timely referral to tertiary centers. Information, Education and Communication campaigns are held in villages to highlight the importance of education of girls, delaying early marriages, nutritional advices in adolescent period and during pregnancy with the help of audio visual aids or role plays. Pregnant mothers and their relatives are motivated for institutional delivery and also to visit the health worker in case of any emergency related to pregnancy and child birth. The importance of safe abortion practices is highlighted. However, awareness campaigns should continue and be reinforced to further reduce the incidence of UF among women in developing countries.

REFERENCES:

1. Boulvain M. *Maternal Morbidity*. 8th Postgraduate Course for Training in Reproductive Medicine and Reproductive Biology. Geneva Foundation for Medical Education and Research, 4 October 2009. Available at: http://www.gfmer.ch/Endo/Lectures_08/maternal_morbidity.htm. Accessed November, 28, 2009.
2. Lewis, G., De Bernis, L. *Obstetric Fistula*. Guiding Principles for Clinical Management and Programme Development. Geneva: WHO; 2006.
3. Lee RA, Symmonds RE, Williams TJ. Current Status of Genitourinary Fistula. Obstet Gynecol 1998; 72:313.
4. Kelly J. VVF: the burden of maternal ill health. Safe Mother 1999; 27(5): 7.
5. Hilton P and Ward A. Epidemiological and Surgical aspects of Urogenital fistulae: a review of 25 years experience in Southeast Nigeria. Int Urogynecol J Pelvic Floor Dysfunct 1998; 9:189-94.
6. Browning A. Obstetric Fistula in Ilorin, Nigeria, PLoS Med. [serial online] 2004 October; 1(1): e2. Published online October 19, 2004. doi:10.1371/journal.pmed.0010002.
7. Arrowsmith S, Hamlin EC, Wall LL. Obstructed Labour Injury Complex: Obstetric fistula formation and the Multifaceted Morbidity of Maternal Birth Trauma in the Developing World. Obstet Gynecol Survey 1996; 51(9):568-74.
8. Lawson JB. Vaginal fistulae. J R. Soc.Med 1992; 85(5):254-6.
9. Raut V, Bhattacharya M. Vesical fistula--an experience from a developing country. *J Postgrad Med*. [serial online]. 1993; 39:20. Available at: http://www.jpgmonline.com/text.asp?1993/39/1/20/658. Accessed April 26, 2008.
10. Ahmed S, Nishtar A, Hafeez GA , Khan Z. Management of vesico- vaginal fistulas in women. Int J Gynecol Obstet 2005; 88:71-5.
11. Rangnekar NP, Ali NI, Kaul SA, Pathak HR. Role of the Martius Procedure in the Management of Urinary-Vaginal Fistulas. J Am Coll Surg 2000; 191: 259-63.
12. Ibrahim T, Sadiq AV, Danial SO. Characteristics of VVF patients as seen in the specialist hospital Sokoto,Nigeria. West Afr J Med 2000; 19:59-63.
13. Rao KB.Vesico-vaginal fistula: a study of 269 cases. Obstet Gynaecol India 1972; 22: 536-41.
14. Tahzib, F. Epidemiological determinants of vesico –vaginal fistulas. Br.J Obstet Gynaecol 1983; 90: 387-9.

15. Murphy, M. Social consequences of vesico–vaginal fistula in Northern Nigeria. J Biosoc Sci 1981; 13: 139-50.
16. Jane Cottingham and Erica Royston. Obstetric Fistulae: A Review of Available Information. Geneva: WHO, 1989.
17. UNFPA. The second meeting of the working group for the prevention and treatment of obstetric fistula, Addis Ababa, 30 October–1 November, 2002. Available at http://www.unfpa.org/upload/lib_pub_file/146_filename_fistula_kgroup02.pdf. Accessed August 9, 2004.