ORIGINAL ARTICLE

Eight Years Experience in the Surgical Management of Vesico-Vaginal Fistula

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ABSTRACT

Aims: To review the aetiology and success of transvaginal repair in simple vesicovaginal fistula cases.
Objective: To review the aetiology and success of transvaginal three layer repair with delayed absorbable suture material in simple vesicovaginal fistulae cases.
Design: Prospective study.
Place and duration of study: This study was carried out in DHQ Hospital, Faisalabad over a period of eight years from December 1996 to December 2004.
Patients and methods: Patients were admitted through gynaecology outpatient department. Patient's age, socio-economic status, education, nutritional status, obstetrical history, previous history of surgery, i.e., caesarean section, caesarean hysterectomy, abdominal hysterectomy, vaginal hysterectomy and repair, previous history of vesicovaginal repair were noted. Complex fistulae, post-radiation fistulae and fistulae requiring repair other than transvaginal route were excluded from the study.
Results: During eight years study period sixty patients with a history of true urinary incontinence were confirmed to be patients of simple vesicovaginal fistulae. 52(86.6%) patients developed vesicovaginal fistula after obstructed labour. 4(6.6%) had gynaecological operation as the primary cause for their fistula while the remaining 4(6.6%) resulted from the instrumental delivery by untrained doctors.
Conclusion: 56(93.2%) patients of vesicovaginal fistulae resulted after obstructed labour and instrumental delivery. Vesicovaginal fistula can be successfully managed surgically. Standard obstetrical care can reduce such occurrence.
Key words: Vesicovaginal fistula, aetiology, obstructed labour, surgical management.

INTRODUCTION

Vesicovaginal fistula (VVF) is a distressing health condition caused by the interplay of numerous physical factors and the social, cultural, political and economic situation of women. This interplay determines the status of women, their health nutrition, fertility, behaviour and susceptibility to VVF[1]. It is a distressing condition for the patient and also for the surgeon. It upsets the life of the patient socially, sexually and obstetrically. The most traumatic aspects of VVF from social point of view are resulting incontinence, childlessness (which lead to marital break down and eventual divorce) and social excommunication and introversion. It is part and parcel of gynaecological practice in developing countries where obstetric care is scarce, the socio-economic status is poor and surgery is done by unqualified persons in poor sterilization[2]. In developing countries, 90% of fistulas are caused by obstructed labor[3]. Lack of skilled attendance at birth, lack of emergency obstetric care and lack of transportation to maternity facilities contribute to the high rates of prolonged and obstructed labour and resultant fistula in developing countries. Fistula afflicts millions of women in developing countries.

Each year an estimated 50,000 to 100,000 or more women develop obstetric fistulae[4,5]. It has been estimated by the WHO that over 2 million women are living with untreated obstetric fistulae. Obstetric fistula is rare in the developed world because emergency obstetric care is readily available. When fistula occurs at all, they usually are the result of cervical cancer and radiation therapy or injuries sustained in surgery and are treated without delay[6]. Successful repair of vesicovaginal fistula, where it gives a good name and fame to the surgeon, it simultaneously imparts a much better medical, social and psychological relief to the patient[7]. For the service of woman health in developing countries, a gynaecologist must be aware of this troublesome problem and should have reasonable expertise to deal with this situation[8].

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MATERIAL AND METHODS

This study was carried out in DHQ Hospital, Faisalabad from December 1996 to December 2004. Sixty fistula patients were admitted in Gynaecology

Ward from OPD with complaint of persistent leakage of urine. Patient's age, parity, socio-economic status, education, presentation and underlying factors leading to fistulae were noted. There were varieties of investigations carried out in the diagnosis of vesicovaginal fistula in our cohort.

The commonest was introduction of methylene blue into the bladder and examination under anaesthesia, intravenous urogram for detection of concomitant ureterovaginal fistulae, and cystoscopy in selected cases. All complex fistulae and those requiring repair by routes other than vagina (transvaginal) were excluded from the study. Surgery was performed after twelve weeks from the onset of fistula. The vaginal repair technique chosen was layered closure. Postoperative continuous bladder drainage was done for two weeks using transurethral catheter. The patients were re-examined before discharge. They were advised to avoid coitus for three months. Follow up visits were planned after six weeks and three months. Elective caesarean section was advised for future pregnancy. All these information were recorded in a specially designed proforma.

RESULTS

A total of 60 vesicovaginal fistulae patients were managed surgically during the study period. Age of patient ranged between 16-40 years. Majority of patients were uneducated, belonged to poor socio-economic class and came from rural areas. The commonest etiological factor of vesicovaginal fistula recorded in our study was obstructed labour, which accounted for (86.6%) of total fistula cases. The other causes were instrumental delivery by unskilled persons, and fistula resulting after hysterectomy, performed by less trained personnel. The average time of presentation was sixty days after the occurrence of fistula. Presentation of all patients was persistent leakage of urine. Surgery was done three months after the development of fistula using transvaginal layered closure technique. Postoperative hospital stay ranged between 14-21 days. There was a 93.3% success in the first repair.

Table 1: Area distribution of patients

Area	n=60	%age
Urban	10	16.6
Rural	50	83.3

Table 2: Age of patients

Age	n=60	%age
16-20 years	40	66.6
30-40 years	20	33.3

Table 3: Education of patients

Education	n=60	%age
Illiterate	54	90
Primary	04	6.6
Secondary	02	3.3

Table 4: Incidence of aetiology

Cause	n=60	%age
Prolonged obstructed labour	52	86.6
Forceps delivery	04	6.6
Post hysterectomy	04	6.6

Table 5: Success rate

Successful repair	n=60	%age
First attempt	56	93.3
Second attempt	0	0
Third attempt	0	0

DISCUSSION

Vesicovaginal fistula, a marker of poor health care, is rather a missed maternal death. The most common cause of this problem is prolonged obstructed labour (86.6%), which corresponds to other studies in Pakistan[9]. While the predominant causes of vesicovaginal fistula in developing countries are obstructed labour and lack of prompt access to emergency obstetric care, pervasive poverty is often a root cause. Studies show that fistula patients tend to live in remote areas and are impoverished[10,11]. These factors are typically associated with inadequate health care during pregnancy and delivery and thus with increased risk of obstetric complications. With less access to obstetric care, rural women are more likely to suffer from fistula than urban women[11,12]. Among rural women those with lower social and economic status are more at risk than others to suffer from fistula and other obstetric problems[5,13]. Although obstructed labour and obstetric fistulas can occur at any age during the childbearing years, adolescent women are at particular risk, especially where early marriage is common. In many developing countries, married adolescent women are undernourished, stunted and under-weight; factors that compound the risks of early pregnancy[5,14].

Most of fistula patients in our study came from rural areas and were young, uneducated, malnourished and belonged to poor socio-economic status. Vesicovaginal fistula is one of the most devastating consequences of obstructed labour. Fortunately, advances in obstetric care have made the serious consequences of obstructed labour nearly obsolete in the developed world. However, in developing countries the major causative factor is

obstetrical trauma. In our country, fistulae due to malignancy or radiation are rare. The main bulk of the causes are due to obstetrical trauma [15,16]. A study carried out by Mustaf and Rushwan (1971) in Khartoum in the late 1960[15], confirmed that the major cause of vesicovaginal fistula is prolonged obstructed labour which is often followed by instrumental delivery (mainly forceps) and gynaecological operations. With regard to aetiology our series presented here compares favourably with study of aetiology of vesicovaginal fistula in developing countries. 93.2% of our cases related to obstetric factors such as obstructed labour, and instrumental delivery, while 6.6% were of gynaecological origin. Women typically present with specific intervals after the various antecedent events (child birth, pelvic surgery) with a primary complaint of constant, painless urinary incontinence. If the fistula is related to traumatic child birth, most patients experience urine leakage within the first 24-48 hours. Following pelvic surgery, symptoms usually occur within the first 30 days. The patients in our study presented with history of uncontrolled leakage of urine between 1 to 3 months after delivery (obstetrical injury) and 3-6 months after pelvic surgery, due to illiteracy, lack of awareness and poverty.

Symptomatic vesicovaginal fistula merits appropriate treatment. If a fistula is suspected immediately following an obstructed labour, the patient may initially receive continuous bladder drainage to avoid stretching the injured tissues, which would impede healing. Prompt catheterization increases the likelihood of spontaneous closure of some fistulae[17,18]. Varying success rates have been reported for conservative management. In our study one fistula patient responded to conservative therapy, i.e., continuous bladder drainage for 4 weeks. Most fistulae require surgical repair. Successful repair can depend upon both the initial state of fistula and the skill of the surgeon, as well as on the quality of postoperative care[19].

Most surgical experts recommend waiting for two to three months after the fistula has occurred before attempting repair in order to avoid operating on dying tissues[20]. Margolis and Mereer simply recommend delayed surgery until inflamed and infected tissue has been treated and the infection and inflammation has resolved[21]. In our study we waited at least 3 months prior to attempting repair. There are internationally recognized techniques for fistula repair[22]. The specific method used usually depends on the surgeon's preferences and the nature of fistula. Most gynaecologists seem to favour the transvaginal repair while urologists prefer transabdominal repair[23,24]. Transvaginal repair achieves comparable success rate, while minimizing operative complications, blood loss and hospital stay. There is a reduction in length of postoperative hospitalization as well as perioperative bleeding[25]. Additionally vaginal approach obviates bowel manipulation reducing operative morbidity[26]. It has obvious advantages in terms of cosmesis and patient discomfort. It also ensures that repair is performed outside of a recently operated pelvis. The abdominal route may be preferred when fistula is high and inaccessible, large and complex, multiple in number or when there is concurrent uterine or bowel involvement or a need for ureteral reimplantation.

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 Matius flap. Transvaginal approach for repair of simple vesicovaginal fistulae remained the procedure of choice in our study.

A laparoscopic repair has been reported with comparable results but requires advanced skill with endoscopic suturing and knot tying[27].

Recovery after surgery takes two weeks, during which the patient needs to drain her bladder through catheter[28,29]. Continuous bladder drainage for 10-14 days following the repair is vital for successful vesicovaginal fistula repair[30]. In our study postoperative continuous bladder drainage was done for two weeks using transurethral catheter.

However, to date no prospective randomized trials have demonstrated the superiority of any single type of catheter drainage. Post fistula repair stress incontinence occurs in approximately 10% of patients[31]. In our study 5(8.3%) patients developed stress incontinence[32,33,34].

Fistula can be repaired successfully in 80 to 90% of cases[35,36,37]. Success rate declines with increasing attempts at closure. Patients undergoing their third attempt had only 33% successful repair[34].

The success rate of fistula surgery in our study was 93.3%. This high success rate was because of proper preparation, selection of simple vesicovaginal fistulae and expertise of the surgeon.

In the developing world, the true incidence of vesicovaginal fistulae is unknown, as many patients with this condition suffer in the silence and isolation. Some estimates place the worldwide prevalence as high as 2 million women worldwide[38].

The problems of fistula, both medical and social, are likely to persist until better health care reaches the poor and most vulnerable members of society.

Four elements form the core of a comprehensive approach to helping women and their family.

1. Reducing the number of adolescent pregnancies by encouraging mature marriage and expanding access to family planning services.
2. Amenable to surgical repair with good outcome.

3. Improving access to good obstetric care including emergency care.
4. Providing surgical treatment and counselling the women living with fistulae in introversion.

Vesicovaginal fistula remains "one of the most neglected issues in international reproductive health". To end the neglect requires commitment and action from policy makers, government, and the international health community. The more the leaders recognize the opinion and the scope of the scale of obstetric fistula and understand the severity of its medical and social consequences, the more likely that a consensus will develop to take concrete action[5].

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