



SURGICAL TREATMENT OF URINARY AND FECAL INCONTINENCE.

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ABSTRACT

INTRODUCTION: In underdeveloped nations, urinary and faecal incontinence is still a major source of morbidity in gynaecological patients. Vesicovaginal fistula (VVF) is the most common cause of urine incontinence, whereas rectovaginal (RVF) fistula, 3rd and 4th degree perineal tears are the most common causes of faecal incontinence. In female urology, VVF is a serious morbidity. Wetness, stench, and discomfort on a regular basis can lead to major social issues. VVF, RVF, 3rd degree, and 4th degree perineal surgical therapy is dependent on correct diagnosis and prompt repair using fundamental surgical concepts. The surgeon's training, expertise, and accessible resources all influence the management procedures. The most common surgical consequences include a failed operation and a recurrence of the fistula. The transvaginal method is favoured for VVF because it has less problems. For greater availability of knowledge and resources, repair procedures should be undertaken in tertiary care centres. **METHODS:** The Women and Children Hospital in Abbottabad did this retrospective investigation. It contained the medical information of 44 individuals who were surgically treated between 2010 and 2018. **RESULTS:** In 48.1 percent of patients, the cause of VVF was obstetrical, and in 48.1 percent of cases, the cause was iatrogenic. The transvaginal method was employed in 85 percent of patients for surgical treatment of primary VVF, whereas the transabdominal technique was used in 7.4% of cases. In our study, the success percentage of VVF after a single surgical intervention was 97.7%, whereas the success rate of faecal incontinence was 100%. Obstetrical causes of faecal incontinence, such as obstructed labour and perineal tears, were found in every patient. **CONCLUSION:** While birth trauma remains a prominent cause of VVF/RVF in our region, the rising number of pelvic and gynaecological operations also contributes to a significant amount of VVF. Prevention is achievable if adequate health care and public knowledge are provided. With the first operation, a successful repair is achievable.

KEYWORDS: Obstetric fistula, Vesicovaginal fistula, rectovaginal fistula, iatrogenic, repair

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How to cite this article: Ayaz A¹, Ammir K², Taj M³, Irfan S⁴, Baloch S⁵, Pathan NF⁵
SURGICAL TREATMENT OF URINARY AND FECAL INCONTINENCE. JPUMHS; 2021:11:04,40-45. <http://doi.org/10.46536/jpumhs/2021/11.04.334>

Received DEC 9 2021, Accepted On 25 DEC 2021, Published On 31 December 2021

INTRODUCTION

A vesicovaginal fistula (VVF) is an abnormal hole between the bladder and the vaginal canal that causes incontinence that is persistent and relentless. One of the most severe side effects of gynecologic and obstetric treatments is this condition. VVF is thought to have been known to ancient

Egyptian physicians, with cases found in mummies dating back to before 2,000 years BC. The body of knowledge on the issue is vast, but it is mostly based on anecdote, tiny retrospective case studies, and opinion rather than truth.

Although VVFs are becoming less prevalent in developed nations, they are still widespread in undeveloped countries 1. According to estimates, at least three million women in developing nations have unrepaired VVFs, with 30,000–130,000 new cases per year.

The general people and the medical community throughout the world are mostly ignorant of this issue. The high frequency of early marriage and childbirth, low literacy rate, and poor adoption of traditional prenatal care among fistula patients were highlighted by Ibrahim et al. 3. Socioeconomic variables are probably the most important factors leading to the high incidence and prevalence of obstetric fistulas in Africa.

In poor places, early marriage, low women's social standing, malnutrition, and poorly built social and economic infrastructures are all more widespread. Most critically, in disadvantaged areas, there is a widespread absence of emergency obstetric services. In places of the globe where obstructed labour is a major cause of maternal death, the rate of VVF may even exceed the maternal mortality rate.

VVF has a variety of causes, which may be classified as congenital or acquired, with the latter being further split into obstetric, surgical, radiation, malignant, and miscellaneous causes. Obstructed labour is the most prevalent cause of VVF. 6. The obstructed labour fistula is the result of a severe field damage induced by the foetal head's contact. In most third-world nations, obstetric fistulas account for more than 90% of all fistulas. 7. Congenital VVFs are highly uncommon and often occur in conjunction with other urogenital abnormalities. Injury to the bladder during gynecologic, urologic, or other pelvic surgery is the most prevalent cause of VVF in the industrialised world (>75 percent). The most prevalent cause of surgical damage to the lower urinary system is hysterectomy. The majority of the remaining surgeries are connected to general pelvic surgery, anterior colporrhaphy or cystocele repair, anti-incontinence surgery, or other urologic treatments. Childbirth can result in rectovaginal fistulas. A rectovaginal fistula can be caused by prolonged labour with necrosis of the rectovaginal septum or obstetric damage with a third- or fourth-degree perineal tear or episiotomy. Fistulas can form due to insufficient healing, failure of the repair, or infection. In industrialised nations, rectovaginal fistulas from delivery are less prevalent.

A rectovaginal fistula can also be caused by infectious processes inside this rectovaginal septum. Cryptoglandular anorectal abscesses and Bartholin gland infections can cause a low rectovaginal fistula if they drain spontaneously. The most prevalent infectious cause of a high fistula is diverticular illness following a prior hysterectomy. Tuberculosis-related rectovaginal fistulas and lymphogranuloma venereum have also been reported⁹.

Sphincter damage and pelvic floor dysfunction due to lack of bowel control are most commonly caused by obstetric injury. The pudendal nerve could be injured as a result of straining after a protracted vaginal delivery^{10–12}. Faecal incontinence affects 4 to 6 percent of women who had vaginal births [10].

In 0.5–2 percent of cases, a third/fourth-degree tear (involving the anal sphincter complex) develops. Despite the obstetrician's early (primary) repair, 85% of women will have a sphincter defect that will not go away.¹¹ Treatment that is conservative (diet/medical adjustment, biofeedback, and pelvic floor exercises) can be effective. Patients with severe faecal incontinence are frequently offered secondary repair^{13–14}. The prognosis is determined by the severity of the anal sphincter impairment and the accompanying neurological injury¹⁴.

There is a danger of perineal damage with every vaginal delivery, but it is especially crucial to evaluate the existence of risk factors that lead to the incidence of severe perineal tears – third- and fourth-degree perineal tears. These variables can be classified into three categories: maternal, foetal, and intrapartum¹⁵. Nullipara, Asian ethnicity, vaginal delivery after caesarean section, age of birth-giver beyond 25 years, reduced perineum – under 2.5 cm, defective collagen synthesis, and high social and economic position are among the maternal characteristics linked to more severe tears^{16,17}.

Large foetuses (above 4000 g), shoulder dystocia, malpresentation, and malposition of the foetus are among the foetal related variables. Instrumental delivery (forceps, suction), a protracted second stage of birth (over 60 minutes), epidural anaesthesia, the use of oxytocin, medial episiotomy (perineotomy), and the mother's posture during labour are all intrapartum risk factors linked to more severe birth traumas (lithotomy and deep squatting position)¹⁸.

PATIENTS AND TECHNIQUES

Patients with VVF, RVF, 3rd degree, and 4th degree perineal tears who received surgical therapy at Women & Children Hospital Abbottabad between 2010 and 2018 were included in this study. All of the patients complained of constant urine leakage, flatulence, or faeces passing through the vagina. They were diagnosed based on their medical history and physical exam. After 3 months of fistula growth or a previous effort at repair, these individuals had surgery. In the case of VVF, an examination under anaesthesia and a dye test were performed after the initial vaginal examination to determine the size and location of the fistula. The route of correction was chosen based on the nature of the fistula. In all of the patients, the vaginal approach was done in the lithotomy position. After VVF repair, Foley's catheter was kept for three weeks. For three months, patients were instructed to refrain from coitus. Gut preparation was done three days before surgery in individuals with RVF. Patients were put on a liquid diet prior to surgery, then kept nil per o for 48 hours following surgery before beginning a liquid diet for 5 days. Six weeks and three months later, follow-up appointments were scheduled. After the successful repair, an elective caesarean section was recommended for future pregnancies.

RESULTS

Our experience of repair of VVF, RVF, 3rd degree and 4th degree perineal tears included 44 patients over a period 09 years. Out of these patients 27 patients (61.3%) had urinary incontinence due to VVF and 17 patients (38.6%) had fecal incontinence due to RVF and perineal tears. Two patients(7.4%) had both fecal and urinary incontinence. 26 patients (59%) were 20 to 40yrs old and remaining 18 (40.9%) patients were 41 to 65 years of age. 11 patients (25%)were primi parous and 33(75%) were multiparous. There were only 08 patients who were formerly educated, the rest were uneducated.

Table 1: data of VVF and RVF repair (n=44)

Parameter	Number	Percentage
Age distribution		
20 to 40 years	26	59%
41 to 65 years	18	40.9%
Parity		
Primiparous	11	25%
Multiparous	33	75%
Etiology of incontinence		
VVF	27	61.3%
RVF	06	13.6%
3 rd degree perineal tear	03	6.8%
4 th degree perineal tear	08	18.1%

After complete abdominal hysterectomy, there were four occurrences of iatrogenic faecal incontinence (two RVF, one third-degree perineal tear, and one fourth-degree perineal tear) and thirteen cases of iatrogenic VVF. One VVF was performed following a C-hysterectomy. VVF occurred in 13 instances as a result of obstructed labour difficulties. RVF occurred in four cases as a result of obstetric difficulties.

Size of VVF ranged from 01mm to 30mm while site of VVF varied in different patients. There were 05 cases(18.5%) of VVF involving vaginal vault, 08(29.6%) were juxtacervical, 03(11.3%) involved apex of vaginal wall, 2(7.4%)in posterior vaginal wall, 01(3.7%) at the base of bladder and 01(3.7%) at the dome of bladder. One(3.7%) was near to left ureteric orifice. Trigon of bladder was involved in 03(11.1%) cases, anterior vaginal wall in 02(7.4%) cases and one(3.7%) was very high fistula. There was one patient in whom there were 03 openings of fistula 2 present in trigon, one in vaginal vault). In this patient repair was strengthened with colpocalesis at the end, this fistula developed after hysterectomy. In one patient combined vaginal and abdominal approaches were used. This fistula was present in posterior vaginal wall and was of 1mm size with failed surgical repair previously. In this case the defect in the bladder was stitched and omental patch was placed between bladder and vagina.opening on the vaginal sideh was stitched by vaginal approach. One case of VVF which was 02months post hysterectomy , had distorted anatomy. The fistula was present in posterior vaginal wall reaching ureteric orifice so abdominal approach was used involving urologist in the procedure. One was a recurrent case of fistula (recurrence after being continent for 05 years after primary repair). This patient had stenosis of vagina so abdominal approach was used with help of urologist. In one patient, there was difficulty in vaginal approach due to narrow sub pubic arch.

Mechanism of development		
Iatrogenic	18	40.9%
Post obstetrical	26	59%
Success of repair		
Successful	43	97.7%
Un successful	01	2.2%

Table 2: particular of VVF REPAIR (n=27)

Parameter	Number	Percentage
Site of fistula		
High fistula	1	3.7%
Dome of bladder	1	3.7%
Base of bladder	1	3.7%
Near ureteric orifice	1	3.7%
Trigone of bladder	3	11.1%
Vault of vagina	5	18.5%
Juxtacervical	8	29.6%
Apex of vagina	3	11.1%%
Posterior vaginal wall	2	7.4%
Anterior vaginal wall	2	7.4%
Etiology of VVF		
Post TAH	13	48.1%
Post c- section/c-hysterectomy	1	3.7%
Obstetrical	13	48.1%
Approach		
Trans vaginal	23	85.1%
Transabdominal	2	7.4%
Combined	2	7.4%
Technique		
Simple repair	25	92.5%
With omental patch	1	3.7%
With colpocleisis	1	3.7%

DISCUSSION

For women all throughout the world, vesicovaginal fistulas are a severe and unpleasant condition. Regardless of the cause, surgical repair is still the most common treatment option. There are continuing debates over when to repair Vesicovaginal fistulas and how to do so surgically. The objective of Vesicovaginal fistula (VVF) therapy is to stop urine leaking as quickly as possible while restoring normal and full urinary and genital function. It has been reported that the initial surgery 19 provides the highest chance for effective VVF correction. Previous attempts at repair have resulted in scarring and anatomic deformation, which might jeopardise prospective reconstructive flaps. Rectovaginal fistulas are aberrant epithelial-lined connections between the rectum and the vaginal cavity.

Due to their annoying and humiliating symptoms as well as a high failure rate following treatment, they can be highly

troublesome to both the patient and the surgeon. A more succinct treatment strategy may be developed by taking a personalised, systematic approach to these fistulas based on their size, location, and cause.

In our study, 59 percent of women were between the ages of 20 and 40, and 18 percent were between the ages of 41 and 65. There were 12.5 percent primipara and 75% multipara, which is similar to the demographics of patients in another study²⁰ done in Pakistan.

In our study, obstetric aetiology accounted for 59 percent of patients, with 48.1 percent developing VVF following hysterectomy. Obstetric VVF is still widespread in underdeveloped nations due to ignorance and a lack of medical resources, although it is rare in the developed world. Obstetric reasons include damage during caesarean section, forceps delivery, and obstructed labour^{21,22}, whereas Kumar M et al. found that about 70% of patients had fistula owing

to obstetric causes and the rest had fistula due to hysterectomy in a research. 23

VVF repair is considered successful when the fistula is closed and the patient becomes continent. Despite the fact that the literature supports transabdominal, transvaginal, laparoscopic, and robotic techniques to VVF repair, none is deemed the "best" 24-26.

Although adjuvant considerations such as size, location, and history of previous operations have an influence on the choice of approach 27, the most critical element is the surgeon's preference and experience. We employed a transvaginal technique in 85.1 percent of instances, and in our research, 97.7% of patients had a successful repair.

Childbirth can result in a rectovaginal fistula. RVF can be caused by prolonged labour with rectovaginal septum necrosis or obstetric damage with a third or fourth degree perineal rupture. Transvaginal repairs have been reported on by gynaecologists for a long time, with generally positive results. In 39 patients treated with a transvaginal technique, Rahman et al reported a 100% healing rate. 28

The size of RVF in our study ranged from 2 to 20 mm. All of the RVF instances were in a low-lying area and were successfully corrected transvaginally. All occurrences of RVF in our research were due to obstetrical causes, whereas the 3rd and 4th degree perineal tears occurred after delivery. In affluent nations, where malignancies and radiation therapy are prominent causes, the RVF caused by childbirth is less prevalent, with the prevalence increasing with high dose radiation and hysterectomy.

CONCLUSION

Although obstructed labour was the leading cause of urine and faecal incontinence in our research, and all of the problems associated with obstructed labour are still frequent in our nation, pelvic and gynaecological operations are also contributing to a high rate of VVF. Because it is a preventable illness, health practitioners should strive to offer obstetric care to every woman, raise public awareness, and give correct training for TBAs (Traditional Birth Attendants). For the greatest results, a strategic approach and thorough training of medical and paramedical professionals are needed.

ETHICS APPROVAL: The ERC gave ethical review approval

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin

FUNDING: The work was not financially supported by any organization. The entire expense was taken by the authors

ACKNOWLEDGEMENTS: We would like to thank the all contributors and staff and other persons for providing useful information.

AUTHORS' CONTRIBUTIONS: All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

CONFLICT OF INTEREST: No competing interest declared.

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