

# TO DETERMINE THE FREQUENCY OF RECURRENCE IN TRANSVAGINAL REPAIR OF VESICOVAGINAL FISTULA

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## ABSTRACT

**Objective:** To determine the frequency of recurrence in transvaginal repair of vesicovaginal fistula.

**Study Design:** Descriptive study.

**Place and Duration:** Pakistan Institute of Medical Sciences, Islamabad. 01 year duration from Feb, 2012 to Jan, 2013.

**Methods:** Sample size was 97 patients and technique was non-probability convenient sampling. Objectives were assessed with proforma and data was analyzed in SPSS 10.0 The mean age of the patients was 30.5 years with range of 15-53 years. In our study 97 patients under went transvaginal repair.

**Results:** Eighty nine patients (91.7%) were declared successful on 28th post operative day after taking history and clinical examination in the outdoor department of Pakistan Institute of Medical Sciences. Recurrence of fistula was observed in 8 patients (8.2%).

**Conclusions:** Transvaginal repair of VVF bears good success rate of 92% in management of vesicovaginal fistula.

**Key Words:** Vesicovaginal fistula. Transvaginal repair.

## INTRODUCTION

Vesicovaginal fistula (VVF) is an abnormal fibrous tract extending between the urinary bladder and vagina leading to continuous involuntary leakage of urine in to vagina.<sup>1</sup> Vesicovaginal fistula is a severe demoralizing and distressing disease of the women. The main issues that require consideration in vesicovaginal fistula are economic, social and cultural factors, a chain of events leading to its formation and the miserable status of the poor woman.<sup>2-4</sup>

The exact incidence of VVF is not known as the frequency of VVF is underreported in developing countries. The incidence of VVF in West Africa is almost 3-4 cases per 1000 deliveries<sup>5</sup>. Hamlin has reported the frequency of 500 new cases per year at Addis Ababa Hospital<sup>6</sup>. Smith and Williams have reported that 500,000 cases of untreated VVF are present worldwide in developing countries<sup>7</sup>.

The etiology of VVF varies from continent to continent and has also changed over the years. Obstetric vesicovaginal fistula remains a problem in developing countries. Obstructed labor, malnutrition, anemia, Intrauterine fetal death(IUFD), postpartum hemorrhage following forceps delivery in a rural setting followed by an emergency obstetric hysterectomy after a delay of 6-8 h (due to transfer to a tertiary center) are factors that lead to formation of VVF. Devascularization of tissue in relation to vagina and bladder led to the formation of large fistula. Obstructed labour is the most cause followed by hysterectomy. Radiation, infections, malignancy and trauma less commonly cause fistula.<sup>8-10</sup> In developed countries, vesicovaginal fistulae are attributed predominantly to bladder injury during pelvic surgery.

Management of VVF is a very challenging condition for the urogynaecologist with a very high failure rate if not properly addressed<sup>11</sup>. Surgical repair provide the best cure rate<sup>12</sup>. VVF repair can be approached transvaginally, transabdominally, or in a combined approach if necessary. The frequency of recurrence of transvaginal repair of VVF is about 10%.<sup>13,14</sup> The transvaginal approach has a lower complication rate and a shorter postoperative recovery. It offers the advantages of avoidance of laparotomy and opening of the bladder, minimal blood loss, rapid postoperative recovery and shorter hospital stay.<sup>12</sup>

Transvaginal repair is beneficial to the patients in many aspects. Our study aims to determine the burden of recurrence in transvaginal repair of vesicovaginal fistula. Keeping in view the severity of the disease and its distressing psychosocial effects on the women. A study is hereby planned to share our experience in surgical management of vesicovaginal fistulae.

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## MATERIALS AND METHODS

This was a descriptive case series study of 01 year duration from Feb 2012 to Jan 2013 carried out in the department of Urology, PIMS Islamabad. The Sample Size was 97 and it was a Consecutive sampling technique. All the patients presenting to the urology department with primarily diagnosis of Vesicovaginal fistula irrespective of etiology were included in our study. Patients with pelvic inflammatory disease and patients with pregnancy will be excluded from study.

All the patients admitted in the department of urology through the outpatient department (OPD) or emergency with diagnosis of vesicovaginal fistula, fulfilling the afore mentioned criteria and given consent were selected for the study. A complete history was obtained including information on biosocial features, obstetrical history, cause of fistula formation, the previous attempts for repair and the conditions and extent of injury to genito-urinary tract. The socio-psychological problems like separation and divorce associated with vesicovaginal fistula were also enquired from the patients.

Thorough clinical examination was performed in all the patients to assess the site and size of fistula and to determine any co-morbidity associated with vesicovaginal fistula. Relevant laboratory investigations like Urine R/E, Urine C/S, Blood CP, renal function tests (RFTs) were carried out in all the patients. Ultrasound abdomen pelvis and IVU were also obtained for necessary information about, site and concomitant injury as well as function of upper tracts.

Examination under anesthesia (EUA) and cystourethroscopy was performed in all the patients under general anesthesia in standard lithotomy position. Decisions for the future repair, the time and approach were made at cystourethroscopy and EUA. The department of Urology follows the protocol of delayed repair so Surgery in our department was performed at least three months of the etiology.

Transvaginal repair was done in all cases. Data was analyzed through SPSS version 10 and various descriptive statistics would be used to calculate frequencies, percentages, means and standard deviation. The numerical data such as age will be expressed as mean  $\pm$  standard deviation. Recurrence immediately and at 01 month and fistula type and size observed will be expressed as frequency and percentages.

## RESULTS

In this study, a total of 97 cases of trans-vaginal repair of VVF were enrolled. Majority of the cases 57 (58.7%) were between 21 and 35 years of age. Only 2 (2.0%) was below 20 years. Twenty nine (29.8%) were between 36 and 50 years while 9 (9.2%) were between 50 and 60 years. (Table 1) The educational status of the study patients was calculated. A great majority 79 (81.4%) of patients were uneducated in our study. Only 11 (11.3%) were having education up to matriculation

Table 1: Age distribution of study patients (n = 97)

Age (years)	Number	%age
15 to 20	2	2.0%
21 to 35	57	58.7%
36 to 50	29	29.8%
50 to 60	9	9.2%

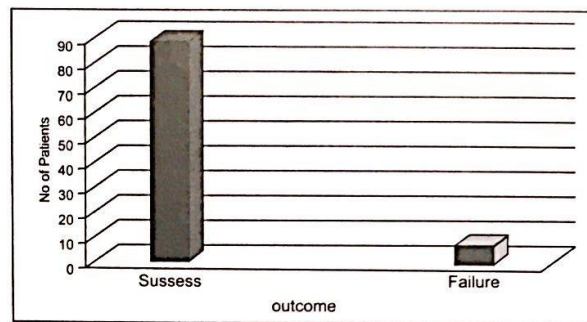


Figure 1: Final outcome of study patients (n = 97)

and 6 (6.1%) had education of intermediate level. Only 1 (1.0%) patient was graduate.

In this study more than 50% cases presented late. Fourteen patients (14.4%) patients presented within 3 months time of the onset. Twenty patients (20.6%) presented between 3 and 6 months while 23 (23.7%) had presentation time of 6 to 12 months. In most of the cases 34 (35.0%) the time of presentation was between 1 and 5 years while 6(6.1%) cases presented after 5 years of onset of disease. The information regarding regional distribution was gathered. Most of the patients were from rural areas 81 (83.5%) while remaining 16 (16.4%) were from urban areas.

All patients were repaired transvaginally. Thirteen (15.2%) cases have martius flap interposition. Out of 97 cases, 8 patients initially developed recurrence, 2 after 3 days, 3 after 2 weeks and 3 after 1 month. Three patients become dry, by prolonged use of catheter and antibiotic for 4-6 weeks while four patients required 2nd repair and one was lost to follow-up. The overall success rate of transvaginal approach was 91.7% in first instance.

Post operatively, stress incontinence of urine was reported in five patients which responded to tolterdine (Detrusitol). None of the patients developed wound infection. Transient hematuria was noted in four patients for two to three days and dysurea in two. The final outcome of the surgery in our study was as 89 (91.7%) had success while 8 (8.2%) had failure or recurrence of VVF. (Figure 1)

## DISCUSSION

Vesicovaginal fistula is still an unpleasant and severely demoralizing injury among women mainly due to disabling childbirth injury or complication of genital system injury after surgical operations resulting in incontinence.

Regarding management of vesicovaginal fistula we agree with the view of Diaz et al that VVF repair can be done via the vaginal, abdominal or both<sup>15</sup>. We do not believe that one technique is superior to the other. Possibly because of the difference in surgical training and experience, there is considerable difference in opinion regarding timing of repair and surgical approaches of VVF repair. The optimum approach is that works best in the surgeon's hand.

In our study, transvaginal repair was performed in 85 cases, which accounted for 88% of total. We found the success rate of 91.7% i.e. 89 patients for transvaginal repair. Failure was in 8 (8.2%). Sana U, Lubna A, Mumtaz A. found 91.1% success rate of VVF repair through transvaginal approach on first attempt.<sup>13</sup>

With increasing experience, most VVF can be repaired transvaginally as it is the procedure of choice. In a study by Brian Hancock and Mhairi Colli, 252(84%) of the 292 cases were repaired transvaginally.<sup>16</sup> In the study conducted by Chaudhuri D et al, 96% cases were repaired by vaginal route.<sup>17</sup> Being the less morbid approach, it was preferred by Kumar Santosh et al.<sup>18</sup>

Results published from the fistula hospital by Kees Waaldijk and from Ann Ward in southern Nigeria are encouraging; with over 90% healing achieved overall.<sup>80,81</sup> Success attempts were 90% and 93.3% respectively in studies by Brian Hancock<sup>16</sup> and Chaudhuri et al.<sup>17</sup> It was almost 93% in studies carried out by Sinha HH and Sarkar B et al.<sup>19,20</sup>

We used Martius flap in 13 cases. It is formed from a labial fat pad, used to provide a layer of healthy, vascularized tissue between the fistula repair and the vaginal wall. This reinforces the closure in cases where the viability of the tissues is doubtful and increases the success of the repair. However, the use of an interposition flap is not necessary if the fistula is small and uncomplicated.<sup>21</sup> The result of above discussion is that transvaginal approach offers the advantages of avoidance of laparotomy and opening of the bladder, minimal blood loss, rapid postoperative recovery and shorter hospital stay. Success rates have been shown to be equivalent to those for transabdominal repair.

## CONCLUSIONS

In present study, we conclude that vesicovaginal fistula is still a great social problem of developing world. The main etiological factor in development of vesicovaginal fistula is obstetrical trauma especially prolonged obstructed labour in our setup. This is attributed to poor antenatal facilities in the rural areas of Pakistan.

The management of vesicovaginal fistula regarding the timing of the repair and approach of repair is still controversial owing to the difference in surgical training. However, we conclude that in our study delayed repair has satisfactory results and the transvaginal approach is a valuable option for VVF repair as it has high success rate and low morbidity. However more studies are required to compare these two variables for the better management of vesicovaginal fistula.

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