

## ORIGINAL ARTICLE

## VESICOVAGINAL AND RECTOVAGINAL FISTULAS: 12-YEAR RESULTS OF SURGICAL TREATMENT

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**Background:** Although the magnitude of obstetric fistulae (OF) is reported to have decreased in industrialised countries, it is still a major problem in developing countries especially the fistulae resulting from obstructed labour. Vesico-vaginal fistulae (VVF) are the most common and the most frequent type of urogenital fistulas. In most cases, surgery is required for treatment. The aim of this study was to analyse the results of surgical treatment of VVF and Rectovaginal Fistulae (RVF) in a tertiary level institution over 12 years period. **Methods:** This retrospective study was conducted at Ayub Teaching Hospital, and Women and Children Hospital, Abbottabad. It included records of a total of 74 patients who were surgically treated from 2001 to 2012. **Results:** Cause of VVF was obstructed labour in 81.08% of cases, and it was iatrogenic in 18.92% cases. In the surgical treatment of primary VVF transvaginal approach was used in 91.9%, while transabdominal approach was used in 2.7% cases. In 54.1% of cases the VVF healed after a single surgical intervention, while in 45.9% cases more-than-one operations were required. **Conclusion:** Birth trauma is still a major cause of VVF/RVF in our region. Prevention is possible with provision of sufficient health care and public awareness. Successful repair is possible with 1<sup>st</sup> surgery.

**Keywords:** Obstetric fistulae, vesicovaginal fistulae, rectovaginal fistulae, iatrogenic, repair, women

### INTRODUCTION

Obstetric fistulae (vesicovaginal or rectovaginal) are types of morbidity that are usually caused by prolonged labour during childbirth without timely medical intervention. The World Health Organization estimated between 50,000 to 100,000 women develop obstetric fistulae (OF) each year.<sup>1,2</sup>

The female genital and urinary tracts are anatomically closely related; therefore, the potential for injury to one must always be considered when operating on the other. Owing to improvements in gynaecological and obstetric techniques that help to prevent urinary tract injury and an emphasis on immediate recognition and repair of injury, long-term complications are less frequent nowadays. The risk of damage increases when the normal anatomy is altered by primary pathologic factors or when it is insufficiently identified during intra-operative complications, such as severe bleeding or pelvic adhesions.<sup>3</sup>

Although there is enough literature on OF, available data on the magnitude of this condition are diverse and considered severely understated; hence may be unreliable.<sup>4-7</sup> It is estimated that about 2 million women are living with OF worldwide, with a greater proportion being reported from sub-Saharan Africa and South Asian countries.<sup>8,9</sup>

Regardless of the pathogenesis, the development of vesico-vaginal fistula (VVF) has profound and devastating consequences for the patients' physical and psychological health. Reports of successful repair of VVF emerged in the literature in first half of 20<sup>th</sup> century in describing the technique of transvaginal approach with the use of silver sutures and bladder drainage postoperatively.<sup>10</sup>

In developed countries the reported aetiology of OF include surgery, malignancy, radiotherapy and coital injury and neglected foreign bodies. In developing countries prolonged labour remains the main reported cause of OF.<sup>11,12</sup> From various regions within sub-Saharan Africa, the underlying factors for OF are considered biological, social and cultural, behavioural and environmental like young maternal age at delivery, poverty, childhood malnutrition, illnesses, and genetic predisposition.<sup>13-15</sup> RVF are abnormal epithelial lined connections between the rectum and vagina. Rectovaginal fistula may be caused by child-birth. Prolonged labour with necrosis of the recto-vaginal septum or obstetric injury with a third or fourth degree perineal tear can lead to RVF. The location of RVF can be described to the rectum, vagina and recto-vaginal septum.<sup>22</sup>

This study was undertaken to share our experiences in VVF and rectovaginal fistula (RVF) repair.

### PATIENTS AND METHODS

This study included the patients of VVF and RVF who had underwent surgical treatment at Ayub Teaching Hospital and Women & Children Hospital Abbottabad from 2001 to 2012 by the same surgeon. All patients had complaints of continuous leakage of urine or stools *per vaginam*. They were diagnosed on the basis of history and clinical examination. These patients had surgery after 3 months of fistula development or previous attempt at repair. After initial vaginal examination, examination under anaesthesia and dye test was done to assess the size and site of fistula. Route of repair was decided according to the nature of fistula. Lithotomy position was used for vaginal approach in all

patients. Foley's catheter was retained for three weeks. Patients were advised to avoid coitus for 3 months. In patients with RVF, gut preparation was done three days before surgery. Patients were put on liquid diet preoperatively and kept *nil per os* for 48 hours after surgery and then started on liquid diet for 5 days. Follow-up visits were planned at six weeks and three months. Elective caesarean section was advised for future pregnancies after successful repair.

## RESULTS

Our experience of repair of VVF/RVF over the past 12 years included 74 patients. Out of these 74 patients there were 10 patients of RVF (13.5%) and 64 were VVF (86.5%). Sixty-five (87.8%) patients were 20–40 years old, while 9 (12.1%) were 41–70 years of age. Parity ranged from 1 to 9. All patients belonged to low socioeconomic status. Except for 2 patients all were formally uneducated. Sixty-eight patients belonged to far-flung rural areas of Hazara Division receiving minimal of the health facilities, while 6 patients were from urban areas of Abbottabad and Manshira. There were 14 (18.92%) cases of iatrogenic fistulae; out of these, 12 (16.21%) were cases of VVF. Ten cases of iatrogenic VVF developed after total abdominal hysterectomy and 2 developed after caesarean section and caesarean hysterectomy. Fifty-two (81.2%) cases of VVF were related with complications of obstructed labour.

All cases of RVF were secondary to obstetric complications. Size of VVF ranged between 2–20 mm while site of VVF involved vault of vagina in 8 cases. Twelve cases were juxtacervical, and in 43 cases there was involvement of anterior vaginal wall. One case of VVF which developed after repair of ruptured uterus was neither visible transvaginally nor approachable transabdominally and ended up in unsuccessful surgery and was planned to be repaired by urologist after 3 months.

**Table-1: Data of VVF and RVF repair (n=74)**

Parameter	Number	Percentage
<b>Age distribution</b>		
20–40	65	87.8
41–70	9	12.2
<b>Type of fistula</b>		
VVF	64	86.5
RVF	10	13.5
<b>Aetiology</b>		
Iatrogenic	14	18.92
Obstetrical	60	81.08
<b>Attempts of surgery</b>		
Single	40	54.1
Multiple	34	45.9
<b>Approach for surgery</b>		
Transvaginal	68	91.9
Transabdominal	2	2.7
Combined	4	5.4
<b>Success of repair</b>	69	93.2

In 40 (54.1%) patients successful repair was done in a single attempt. In 34 (45.9%) patients more than one (2, 3, 4 times) attempts at repair were needed. Only one patient with RVF required a covering colostomy. This patient also had large VVF and repair of both VVF and RVF was done in a single setting. There were 5 patients in whom the repair was unsuccessful due to the presence of severe fibrous tissues and lack of healthy tissues available around the fistula. These were the patients in whom previous attempts were done in other institutions or by general surgeons in the same institution. Most (68, 91.9%) patients had a repair through vaginal approach, 3 patients needed a combined (abdominal and vaginal) approach for repair, and in 2 patients trans-abdominal approach was required.

## DISCUSSION

Obstetric fistulae have been eliminated in developed countries where educational standards are good and prompt access to emergency obstetric care is the cultural norm. If a woman in an affluent country develops a serious injury from obstructed labour, the event is remarkable enough to be written up and published as a case report.<sup>12,13</sup> In contrast, there are millions of unrepaired obstetric fistulae in sub-Saharan Africa and South Asia. As it is a preventable condition so measures like provision of obstetric care to every woman, public awareness and proper training of TBA (Traditional Birth Attendant) should be the goal of health providers.

In our study 87.8% of women aged between 20–40 yrs and 12.1% were between 41–70 years. There were 13.5% primipara and 86.4% multipara which is comparable to demographic details of cases of another study conducted in Pakistan.<sup>16</sup>

All major studies have shown that 70–95% of the VVF in developing countries are of obstetric aetiology.<sup>11,12</sup> while in our series, 81.08% of patients had obstetric aetiology. Closure of fistula and the patient becoming continent is regarded as success of VVF repair. In our study, there was a successful repair in 93.2% of patients. The vaginal repair claimed in different studies<sup>3,17–20</sup> varies from 67 to 95% whereas it is reported 85–100% with abdominal repair.<sup>21</sup>

We had ten cases of RVF, all being of obstetrical origin. Rectovaginal fistula may be caused by child-birth. Prolonged labour with necrosis of the recto-vaginal septum or obstetric injury with a third or fourth degree perineal tear can lead to RVF. In our study the size of RVF varied between 2 mm to 20 mm. All cases of RVF were low in location except for one which was high and this patient had a colostomy done 3 months back. The RVF resulting from child-birth is less common in developed countries where malignancies and radiation therapy are major causes, incidence being increased with high dose radiation and hysterectomy.<sup>23</sup>

## CONCLUSION

In our study the major cause of fistula development was obstructed labour. All complications of obstructed labour are still common in our country.

## RECOMMENDATIONS

Strategic approach and proper training of medical and paramedical staff is recommended for best outcome.

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