

## KEY TO SUCCESSFUL VESICO-VAGINAL FISTULA REPAIR–AN EXPERIENCE OF UROGENITAL FISTULA SURGERIES AND OUTCOME AT GYNAECOLOGICAL SURGICAL CAMP-2005

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**Background:** Vesico-vaginal fistula is not life threatening medical problem, but the woman face demoralization, social boycott and even divorce and separation. The aetiology of the condition has been changed over the years and in developed countries obstetrical fistula are rare and they are usually result of gynaecological surgeries or radiotherapy. Urogenital fistula surgery doesn't require special or advance technology but needs experienced urogynaecologist with trained team and post operative care which can restore health, hope & sense of dignity to women. **Methods:** This prospective study was carried out to analyze the success rate in patients attending the referral hospital and sent from free gynaecological surgery camps held at interior of Sindh, and included pre-operative evaluation for route of surgery, operative techniques and postoperative care. Total 70 patients were admitted from the patients attending the camp. Out of these, 29 patients had uro-genital fistula. Surgical repair of the fistula was done through vaginal route on 27 patients while 2 required abdominal approach. **Results:** Out of 29 surgical repairs performed, 27 proved successful. **Conclusion:** Difficult and complicated fistulae need experienced surgeon. Establishment of separate fistula surgery unit along with appropriate care and expertise accounts for the desired results.

**Keywords:** Genital tract fistula, Vesic-Vaginal Fistula, Surgical Repair, Obstructed Labour

### INTRODUCTION

Vesico-vaginal fistula (VVF) is not a life threatening medical problem but the women face demoralization, social boycott and even divorce and separation. They are excluded from all religious and family activities. The fistula may be vaginal, recto-vaginal or combine.<sup>1</sup> The aetiology of the condition has been changed over the years and in developed countries obstetrical fistula are rare and they are usually result of gynaecological surgeries or radiotherapy.<sup>2</sup> The first basic surgical principle for repair of VVF was described in 1663 by Hedrick, who stressed the use of speculum and lithotomy position to gain adequate exposure and denudation of margin of fistula with re-approximation of the edges.<sup>3</sup> The first reported surgical cure of VVF documented back to 1852 by Maram Sims<sup>4</sup> –father of fistula repair surgery. He achieved success on his 30<sup>th</sup> surgical attempt on a salve.<sup>3</sup> The success of surgical treatment is adherence to the principle of fistula closure,<sup>5</sup> that is optimal tissue condition, adequate exposure, and tension free closure. These basic principles remain as important guidelines even in 21<sup>st</sup> century.<sup>2</sup>

Urogenital fistula surgery doesn't require special or advance technology but needs experienced urogynaecologist with trained team and post operative care which can restore health, hope and sense of dignity to women.

This prospective study was carried out to analyze the success rate of surgery performed on the patients of VVF.

### MATERIAL AND METHODS

All patients included in this series were recruited through various free medical camps conducted at interior of Sindh province of Pakistan, from 6<sup>th</sup> January to 18<sup>th</sup> January 2005.

Total 70 patients were admitted, 32 patients had urogenital fistula and remaining had other gynaecological problems. In all patients, detailed history was taken, the age, parity, duration of labour, and history of any previous surgery was recorded.

All patients were examined in lateral Sim's position, only few required examination under general anaesthesia and dye test to identify the size, site and number of fistula. In all patients base-line investigations were performed. In 4 patients Cystoscopy was done to assess the relationship of ureteric orifice with fistula. In 5 patients ureteric catheterization was done when fistula was within 0.5 cm of vicinity of ureteric orifice.

Total 29 vesico-vaginal fistula repairs were done. Twenty-seven patients were approached through vaginal route and 2 patients required abdominal approach with interposition of the omental graft in one patient.

### RESULTS

Out of a total of 29 vesico-vaginal fistula repairs done, 27 were approached through vaginal route and 2 patients required abdominal approach with interposition of the omental graft in one patient. The fistula in 13 women followed the first delivery and in 11 patients it followed subsequent delivery. Four patients had gynaecological operations as the primary cause of their fistula and in one patient it followed

the urological procedure and only two patients had congenital vesicovaginal fistula (Table-1). The age of the patients ranged from 6 years to 65 years and parity ranged from 0–11.

The duration of fistula varied from 1 to 22 years and diameter of fistula ranged from 1–3 cm. Out of 32 patients 10 had prior fistula repair without success, 2 patients had four prior attempts and 1 had previous six attempts (Table-2).

In one patient vesical calculus was removed through fistulous opening and she was called after three months for VVF repair. One patient developed VVF following radiotherapy for carcinoma cervix and she was advised repair after one year. Out of 29 patients, 27 patients had an immediate successful result (Table-3). In 1 patient rectovaginal fistula repair was done along with the repair of VVF and 1 patient required colostomy and advised VVF repair after three months (Table-4). In majority of patients Foley's catheter was removed after two weeks except in one patient who had large or complex fistula where it was retained for 3 weeks. In five patient's ureteric catheter were kept for 5 days. In six patients neourethra was created (Table-4).

Most of the patients remained dry in postoperative period and only few developed problems. All patients were given prophylactic antibiotics; three patients needed prolonged catheterization for retention of urine and one needed self catheterization. One patient developed psychological problem and required antipsychotic therapy.

**Table-1: Causes of VVF**

Obstetrical Causes	No of patients	Percentage
Normal Vaginal Delivery	8	25.0
Forceps Delivery	2	6.25
Cesarean Section	10	31.25
Cesarean Hysterectomy	4	12.5
<b>Gynecological Causes</b>		
D & C	1	3.12
Abdominal Hysterectomy	2	6.25
Vaginoplasty	1	3.12
R.T for Ca Cervix	1	3.12
Congenital	2	6.25
<b>Urological Causes</b>		
Cystolithotomy	1	3.12
<b>Total:</b>	<b>32</b>	

**Table-2: Number of previous repair attempts**

No of Previous attempts	No of Patients
No Previous attempts	22
1-2 attempts	7
3-4 attempts	2
> 4 attempts	1
<b>Total:</b>	<b>32</b>

**Table-3: Result of urogenital fistula repair**

Result	No of Patients	Percentage
Successful	27	93.1%
Unsuccessful	2	6.25%
Unfit	3	
<b>Total:</b>	<b>32</b>	

**Table-4: Other procedures along with VVF repair**

Procedure	No of Patients
Cystolithotomy	1
R VF Repair	1
Colostomy	1
Creation of Neourethra	5

## DISCUSSION

This prospective study was carried out to find out outcome of surgical procedure in urogenital tract fistula. In our study all the patients were operated by senior surgeon John Kelly who is the experienced gynaecologist at UK & visiting surgeon in Pakistan our success rate was 93% which is comparable with other studies where urogenital fistula repair were supervised by Prof: or associate Prof: were success rate was 85%.<sup>6</sup>

To date no operative technique has been described that is applicable universally to all types of urogenital fistula<sup>2</sup> and surgery is tailored according to the individual case.

In developing countries over 80% of fistula result from neglected obstructed labour with an annual worldwide incidence is up to 500,000 cases.<sup>7</sup> In Pakistan for each maternal death, 1.5 suffered different type of morbidity and obstetrical fistula being on the top of the list.<sup>8</sup>

Prolonged obstructed labour not only produces urogenital tract fistula but also result in multiple birth related injuries ranging from total loss of urethra, cervical destruction, vaginal stenosis, pelvic inflammatory diseases, infertility etc.<sup>9</sup>

In our series most of the repair done via vaginal route, as it is less invasive and reduces the postoperative morbidity and is accompanied by more than ninety percent or higher success rate. as seen in different studies.<sup>10</sup> Success of treatment depends on the skill of the operator & patience. Crucial stage was to mobilize bladder wall from vaginal wall with every effort was made to avoid injury to the wall of bladder so that the supporting sutures can be inserted without tension. In few cases separation was time consuming & require hours. Next important step was to achieve complete haemostasis & proper post operative bladder care & in our study excellent results were obtained even in patients who had prior multiple attempts.

Review of the literature shows different technique for the repair of fistula but in most of these cases the basic principle for repair of the fistula remains the same.

Iatrogenic bladder perforation can occur during vaginal, pelvic or abdominal procedures and can be identified and repaired by vesicography, which will give good result.<sup>11</sup> Transrectal approach is appropriate for the fistula located in lower vagina while transabdominal approach is suitable for fistula located in functional part such as bladder base or ureter<sup>12</sup> or

when they are recurrent, multiple, large or high. In our series one patient had vesical calculus along with vesico-vaginal fistula, although primary vesical calculus are uncommon in patients with VVF, but may be seen in patients who has urinary contamination or long history of the disease.<sup>13</sup>

Congenital VVF is very rare entity<sup>14</sup>, but in our study group two patients had congenital VVF. Success rate of vesico vaginal repair improved by tissue interposition in cases of fistula following radiotherapy or post hysterectomy especially when they are multiple or recurrent<sup>15</sup>, because omental rich blood supply & has easy mobility can be used transabdominally to support fistula repair.

In our study Omental graft was used in one patient who had prior three failed attempts. Martus flap can be used for distal fistula while peritoneal flap is used for proximal fistula<sup>16</sup> through vaginal route

Vesico vaginal fistula following radiotherapy or intensive local therapy for recurrent endometrial cancer of vaginal stump can be treated with fibrin glue.<sup>17</sup> If there is large post hysterectomy or post radiation fistula with shrunken bladder it can be repaired by ileo-cystoplasty.<sup>18</sup> Here defect in bladder is closed with well vascularized ileal segment and this operation can improve bladder capacity.

## CONCLUSION

From this study it has been found that difficult and complicated fistula needs experienced surgeon & establishment of separate fistula surgery unit along with appropriate care and expertise for desired results.

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