

An experience of trans-abdominal repair of vesico-vaginal and uretero-vaginal fistulae

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Objective: To assess the success rate of trans-abdominal repair of vesico-vaginal and uretero-vaginal fistulae.

Methodology: This prospective descriptive study was conducted in the Departments of Surgery, Gynecology and Urology, Ghulam Mohammad Mahar Medical College Hospital, Sukkur, Pakistan from August 2009 to July 2012. A total 27 patients of vesicovaginal fistulae (VVF) and Uretero-Vaginal fistulae were included in the study. All patients had supra-trigonal multiple or single VVF and were repaired by the abdominal approach. The outcome of the procedure and post-operative complications were recorded.

Results: Thirteen patients had single supra-trigonal, three had multiple VVF. Three had vesico-uterine and four had uretero-vaginal fistulae. All were operated by abdominal approach

successfully. Pelvic surgery (abdominal hysterectomy/LSCS) was the major cause of VVF, accounting for 66.66 % (18 patients), while in remaining 33.33% (9 patients) the obstructed and prolonged labor were the cause. All fistulae healed successfully with minor leaking in 2 (7.4%) patients which settled spontaneously. One patient developed post-operative adhesions (small bowel obstruction) and was explored and adhesiolysis was done. Three (11.11%) patients developed post-operative wound infection and healed by dressing.

Conclusion: Trans abdominal is an excellent approach for supra-trigonal, vesico-uterine and uretero-vaginal types of fistulae. (Rawal Med J 2013;38: 169-172).

Keywords:-Vesico-vaginal fistula, abdominal approach, incontinence.

INTRODUCTION

A vesicovaginal fistula (VVF) is a devastating complication of poorly managed labor and gynecological surgeries.^{1,2} An incidence of 1-2 per 1000 deliveries has been estimated world-wide with an annual incidence of up to 50,000 to 1, 00,000 in developing countries.³ Globally, about 3.5 million women are affected with genitourinary fistula.⁴ Obstetric fistula reflects poor child birth attendance in the developing countries⁵ and mostly results from neglected obstructed labor, often affecting very poor, young, illiterate, rural women and girls.⁶ VVF is a serious social and psychological problem due to persistent leakage of urine, sometime leading to social separation and even divorce.⁷ Successful management with prolonged bladder drainage has been used. However, surgical repair is the primary method of treatment. There are lots of controversies regarding the timing and surgical approach of repair.⁸ The goal of treatment is the rapid cessation

of urine leakage with return of normal and complete urinary and genital function. The mature fistula requires formal operative repair, but the first repair is crucial that should be done properly to achieve successful results.⁹ In the present study, we evaluated the success rate of repair of VVF via trans abdominal approach.

METHODOLOGY

This prospective descriptive study was conducted in the department of surgery, gynecology and urology during a period of last three years from August 2009 to July 2012. Twenty seven patients were selected from the outpatient department of surgery, gynecology and urology and most of these patients were referred from outside. Patients were included who had supra-trigonal, >3cm, single or multiple VVF as well as vesico-uterine and uretero vaginal fistulae; while those patients who had fistula <3cm, trigonal, sub-trigonal and fistulae due to surgery for

malignancy and radiation were excluded from the study. The presenting complaint of all the patients was persistent leakage of urine. All were evaluated pre-operatively by detailed history, clinical examination, and investigations like urine culture & sensitivity, U/S KUB, and intravenous urography. Abdomen was opened by infra-umbilical mid-line incision and urinary bladder was opened through its anterior wall. The ureteric orifices and the location of fistulae were identified. The ureteric catheterization was done in all patients at the time of surgery. The fistulous tract, scarred and necrotic tissue were resected. The ureter of the affected side was mobilized up to its entrance in the bladder, where it was divided and reimplanted in the bladder. Bladder was drained by ureteric supra-pubic cystostomy and urethral catheter. Ureteral stents were removed after one week and urethral Foley's catheter removed after 3 weeks. The patients were discharged on 4th or 5th post-operative day. The minimum time of repair was at least 3 months after the initial obstetrical or gynecological surgery. The follow up of the patients was 6-12 months in 90% of cases. The data was analyzed using SPSS v17.

RESULTS

The age of patients ranged from 20-40 years. All patients recovered with minimal complications. Out of 27 patients, most fistulae were of supra-trigonal type (Table 1).

Table 1: Different types of fistulae (n=27).

Type of Fistulae	Number (%)
Supra-trigonal	13 (48.14 %)
Multiple	03 (11.11 %)
Vesico-uterine	04 (14.81%)
Uretero-Vaginal	07 (25.92%)

The most common cause of fistulae was total abdominal hysterectomy followed by obstructed and prolonged labor and cesarean section (Table 2).

Table 2. Causes of fistulae.

Cause	Number (%)
Total Abdominal Hysterectomy	16 (59.25%)
LSCS	02 (7.4 %)
Obstructed Labour	09 (33.33%)

Immediate post-operative complications were fever in 2 (7.4%) patients, ileus in 3 (11.11%) patients for 48 to 72 hours and wound infection in 3 (11.11%) patients which were managed conservatively (Table 3).

Table 3. Post-operative complications.

Complication	Number (%)
Fever	02 (7.4 %)
Ileus	03 (11.11%)
Wound infection	03 (11.11%)
Small bowel obstruction	01 (3.7%)
Minor leaking of urine	02 (7.4%)
Recurrence	0
Mortality	0

One patient developed small bowel obstruction due to adhesions and was re-explored on 14th post-operative day. Minor leaking of urine occurred in 2 (7.4%) patients, which settled spontaneously by keeping Foley's catheter for 3 weeks. All the patients were followed fortnightly after discharge and then with 3 and 6 monthly intervals up to a period of one year. No recurrence or mortality occurred.

DISCUSSION

VVF is a major obstetrical problem in many developing countries.¹⁰ Being third world countries, obstructed labor is the common cause of VVF in Pakistan as in Nigeria and India.^{11,12} The post-surgical fistula is usually the result of more direct and local trauma to healthy tissues. The stage of the disease, obesity, diabetes and post-operative infection are predisposing factors for the development of these fistulae.¹³ VVF in developing countries mostly occurs after pelvic surgery i.e, abdominal hysterectomies which occur in 0.05-0.5/100 cases.^{14,15} In our study, the cause of VVF was abdominal hysterectomy in 59.25% patients, obstructed labor in 33.33%, and caesarean section in 7.4% patients. Rasool et al¹⁶ reported abdominal hysterectomy in 57.7% and obstructed labor in 38.3% patients.

Regarding the management, timing of repair and surgical approach are important. Angioli et al¹⁷ recommended that for the better outcome, proper mobilization and reduced scarring, a period of 4-6

weeks is mandatory between the onset of fistula and repair. Timing of repair in different studies vary between 3-6 months.¹⁸ In our study, timing of repair was at least 3 months. The most surgical fistulae require abdominal repair while obstetrical fistulae are dealt satisfactorily by vaginal route.¹⁰ The trans-abdominal approach is appropriate for larger fistulae, relapsing fistulae and fistula located higher in bladder.¹⁹ Whatever the approach, the more important determinants of successful repair are the principles of adequate exposure, tension free, non-overlapping suture lines, good homeostasis, watertight closure and adequate postoperative bladder drainage.¹⁸ The approach used depends also on the preference and experience of surgeon.

Abdominal approach has advantage of optimal exposure of the fistula as well as intra-operative assessment of the complex fistula or cases with concomitant urethral obstruction.²⁰ In our study, we had 100% success rate and minimal complications. In different studies, the success rate was reported was 85-100% through abdominal approach.^{9,15,16,21,22} Sohail et al²³ reported higher failure rate in supra-trigonal and marginal VVF repaired trans vaginally. Therefore, we preferred trans-vesical abdominal approach for high supra-trigonal and vault fistulae.

CONCLUSION

We conclude that supra-trigonal and vault fistulae are best treated by trans-abdominal approach.

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