

SURGICAL TREATMENT OF VESICOVAGINAL FISTULA; AN AUDIT OF 69 CASES

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ABSTRACT

Objective: The aim of this study is to assess the outcome of patients undergoing repair of vesicovaginal fistula.

Methodology: This descriptive study which was conducted from May 2002 to March 2008 the Department of Urology Lady Reading Hospital Peshawar. A total of 69 patients with Vesicovaginal fistula were included in this study. A detailed history and physical examination with special emphasis on previous gynecological and obstetrical events was recorded. All these patients underwent routine investigations like HB%, CBC, Urinary analysis, renal function test and viral profile with ultrasonography of the abdomen & pelvis. Intravenous Urography(IVU) was offered to those patients who had upper tract dilatation on ultrasonography. Preliminary cystoscopy and Vaginoscopy was performed in all patients to diagnose VVF and plan the surgical approach.

Result: The mean age was 39.07(+10.031)years. Thirt eight (55%) patients developed fistula due to obstetrical reasons while 30 (43-47%) had gynaecological surgeries and only one patient developed fistula after radiotherapy. The average size of the fistula was 3.36 cm: Transabdominal repair of fistula was done in 58(84.1%) patients while 11(15.9%) has transvaginal repair. Successful repair was achieved in 65(93.7%) patients.

Conclusion: Vesicovaginal fistula can be successfully managed surgically. Proper preoperative assessment of the patients is mandatory for selection of the surgical approach.

Key Words: Vesicovaginal fistula (VVF), Transabdominal repair, Transvaginal repair.

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INTRODUCTION

Vesicovaginal fistula (VVF) is not a life threatening medical problem but the women face demoralisation, social bycott and even divorce or separation. These patients are socially sagregated and it is difficult for them to continue with their family and religious activities.

The existence of VVF as a clinical entity is believed to have been known to the physicians of ancient Egypt, from the mummified remains of Egyptian Queen Henhenit (2050BC) and even now the VVF continues to be a challenging problem for

the Gynaecological surgeons¹. The etiology of this condition has changed over the years and in developed countries obstretical fistula are rare and they are usually a result of gynaecological surgeries or radiotherapy². In developing countries prolonged labour is still the predominant cause of VVF (97%)³. The other common causes of this condition are pelvic surgeries, pelvic malignancies, trauma and radiation necrosis^{4,5}. The actual incidence of VVF is not known but in developing countries this condition may follow 1-2/1000 deliveries with an annual world wide incidence of up to 500,000 cases⁶.

The first basic surgical principle for VVF repair was described in 1663 by Hedrick, who stressed the use of speculum and lithotomy position to gain adequate exposure and denudation of margins of fistula with reapproximation of edges⁷; however the first reported surgical cure of VVF documented back to 1852 by Maram Sims⁸. Urogenital fistula surgery doesn't require special or advance technology but need experienced urogynaecologist with trained team and post-operative care which can restore health, hope and sense of dignity to affected women⁹.

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Two major issues predominate in any discussion of VVF, namely the timing of repair and the surgical approach used. In most instances, similar results were obtained whichever approach was used⁴. There seemed to be no real difference in either early or late repair¹⁰. The objective of the present study is to share our experience in the surgical management of vesicovaginal fistula.

METHODOLOGY

All patients in this study were recruited after their referral to our department from various parts of the Khyber Pukhtoonkhwa Province and Afghanistan between May 2002 to March 2008. For the purpose of demographic distribution the catchment's area of the patients was divided into five zones as i) Central districts ii) Northern Districts, iii) Southern Districts iv) FATA and v) Others.

The total number of patients was 69. All those patients with complaint of total urinary incontinence who were diagnosed as having VVF on the basis of history & clinical examination were included in this study. These patients had full urological workup including routine investigations, viral profile, ultrasonography, intravenous urography in those selected patients who had uni or bilateral upper tract dilatation and preliminary cystoscopy and vaginoscopy for the diagnosis and planning of surgical approach for vesicovaginal fistula repair. Patients with other urogenital fistulas and those induced by malignancy were excluded from this study. All these patients were offered surgery after at least three months of acquiring fistula or unsuccessful previous attempt of repair.

In big sized fistulae the repair was reinforced by interposition of omental or peritoneal flaps. Transvaginal repair was done in extended lithotomy position while transabdominal repair was done in supine position. In all cases repair was accomplished by vicryl 2/0. The fistulous opening was dissected and the walls of vagina and bladder were separated and repaired separately.

Both suprapubic and per urethral catheters were placed in patients undergoing transabdominal repair while only urethral catheter was retained in patients having vaginal repair done. These patients remained hospitalized for at least two weeks and their catheters were removed after two weeks.

These patients were followed for a period of three months at monthly intervals. All these patients were advised to avoid sexual relations for three months. Those patients who had first unsuccessful attempt at surgery were counselled and booked for a redo surgery after 12-14 weeks. This data was formatted and analyzed using SPSS.

RESULTS

A total of 69 patients were included in this study. Their mean age was 39.07 years with SD 10.031. The demographic distribution of the patients were: 22(39.1%) patients from central districts, 16(23.2%) from Northern districts, 20(29%) from Southern districts and 8(11.6%) from FATA while 3 (4.3%) patients were from other areas like Afghanistan and Balochistan. The demographic distribution of the patients is shown in Table 1.

The Average size of the fistula was 3.36 cm with a range of 1.5-6 cm. The average duration between onset of fistula and its repair was 13.3 months with a range of 3-216 months. Etiologically 30(43.47%) patients had gynaecological causes, while 38(55.07%) had obstetrical cause and only 1(1.44%) patients developed VVF after irradiation for carcinoma cervix. Transperitoneal abdominal repair was done in 58(84.1%) patients while 11(15.9%) underwent transvaginal repair (Table 2 and Figure 2).

Additional procedures like retrieval of vesical calculi, DJ stenting and reimplantation of ureters were done respectively in 2(2.89%), 8(11.59%) and 5(7.24%) patients.

In our study 4 patients had failed surgery while 6 patients who were fully continent at discharge from the hospital were lost to followup.

Table 1: Demographic Distributions of Patients

		Frequency	Percent
Valid	Central Districts (Peshawar, Charsadda, Nowshera, Mardan)	22	31.9
	Northern districts (Malakand, Swat, Dir, Buner, Chitral)	16	23.2
	Southern districts (Kohat, Bannu, Karak, Hangu, D.I.Khan)	20	29.0
	FATA	8	11.6
	Others	3	4.3
	Total	69	100.0

Table 2:

	Percent	Valid Percent
Transabdominal repair	58	84.1
Tranvaginal repair	11	15.9
Total	69	100.0

Figure 1

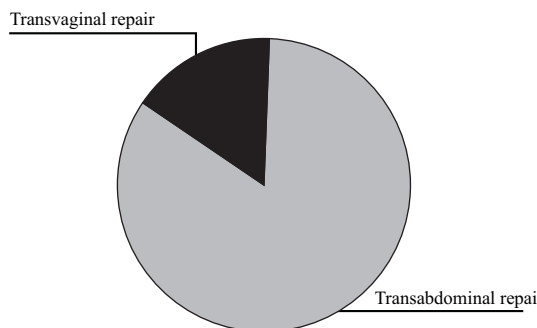


Table 3

	Frequency	Percent
Complete recovery	35	50.7
Complete Recovery with minor LUTS managed conservatively	24	34.8
Failure, requiring redo surgery	4	5.8
Total	63	91.3
Lost to followup	6	8.7
Total	69	100.0

The one patient with post irritation fistula died of the primary disease. The overall success rate of surgical repair was 93.7% in our study. Table 3.

DISCUSSION

Vesicovaginal fistula is still a challenging problem because of its social implications but even more challenging is the management of this socially distressing condition which needs highly trained and experienced team of urogynaecologist¹¹.

The predisposing factors include poor nutritional status limited or no access to proper antenatal care early marriages and mismanagement of deliveries by unskilled practioners¹². Performance of major surgical procedures like hysterectomy in the peripheral hospitals by improperly trained surgeons is also a major gynaecological cause of VVF. The mean age of patients in our series was 39.07 years with a range of 18-70 years. Only 14.9% of our patients were in age of group of 18-25 years which is comparable to the results of 15.78% reported by

Shafqat et al³, while one of the Nigerian study reported an incidence of 35% for the same age group¹³. The demographic distribution in our study showed that 60.9% patients were from areas where the health facilities are limited or not available. But more alarming was the figure of 39.1% from central districts where the facilities were available but not utilized due to lack of health education.

Most of the series published form the developing countries have shown an incidence of 70-95 % for obstetrical fistula^{3,14-17}. But the international literature reports on increasing incidence of VVF due to gynaecological causes in the developed world and some of the developing countries¹⁸⁻²¹. In our study the obstetrical causes were 55.07% while the gynaecological causes were 43.47%. These results correlate partially with the published series for both causative factors but contrary to the series published in Pakistan and other developing countries the incidence of VVF due to gynaecological causes was more. This can be explained by the fact that majority of the obstetrical complications report to the

gynaecologists. The approach used depends very much on the preference and experience of the surgeon. Most gynaecologists seem to favour the transvaginal repair^{9,10,22}, while urologists prefer the transabdominal repair^{23,24}.

Recently there are reports of Laproscopic repair of VVF as well^{25,26}.

We operated transabdominally on 84.1% of our patients while only 15.9% of the patients were subjected to transvaginal repair. This observation is in accordance with the series published by urologists^{23,24}. The transabdominal approach enabled us to undergo additional procedures as well. We retrieved vesical calculi from 2(2.89%) patients inserted DJ Stents in 8(11.59%) patient and performed reimplantation of ureters along with DJ Stents in 5(7.24%) patients. Similar findings has been reported by Kam et al in his publication as well¹⁹.

Timing of the repair warrants some discussion. There are reports in the literature that early or delayed repair did not affect the outcome of fistula repair^{10,18}. However one study from Singapore has reported failure in two of their cases who were offered early repair¹⁹. In our study we planned surgery in all of our patients at least 3 months after acquiring the VVF. Similar approach has been reported by Tanveer³ as well in their study.

The average duration between the onset of fistula and 1st repair was 13.3 months with a range of 3-216 months. Many of our patients had a long course of distressing symptoms before they were offered surgery. This could be because of lack of awareness about the availability of treatment. The optimum duration of catheterization after fistula repair has been reported to be 10 days in only one study²⁷. In our study we kept our patients on catheter drainage for 15 days & we noticed no difference in the outcome.

We achieved successful results in 93.7% of our patients. These results are comparable to many other published reports^{24,28-30}.

CONCLUSION

Vesicovaginal fistula can be successfully managed surgically. Proper preoperative assessment of the patient is mandatory for selection of the surgical approach.

An optimum time of at least three months should be given to all patients after the onset of fistula before repair is attempted. Public awareness programmes should be initiated to control the preventable causes of vesicovaginal fistulae.

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None Declared

REFERENCES

- Zacharin RF. A history of vesicovaginal fistula. *Aust NZJ Surg* 2000;70:851-4.
- Naru T, Rizvi JH, Talati J. Surgical repair of genital fistula. *J Obstet Gynaecol Res* 2002;30:293-6.
- Shafqat T, Faiz NR, Haleemi M. Profile and repair success of vesicovaginal fistula in NWFP. *J Postgrad Med Inst* 2009;23:99-101.
- Langkilde NC, Pless TK, Lundbeek F, Nerstrom R. Surgical repair of vesicovaginal fistula: a ten years retrospective study. *Scand J Urol Nephrol* 1999;33:100-4.
- Mathingly RF. Acute operative injury to the urinary tract. *Clin Obstet Gynaecol* 1978;5:123-49.
- Ramphal S, Moodley J. Vesicovaginal fistula Obstetric causes. *Curr Opin Obstet Gynaecol* 2006;18:147-51.
- Riley VJ, Spurlock J. Vesicovaginal fistula [Online]. 2006. Available from URL: <http://www.emedic.com/med/topic3321htm>
- Kelly J. Vesicovaginal fistula. In: Studd J, editor. *Progress in obstetrics and gynaecology*. Edinburgh: Churehil Livingstone; 1983. p. 324-33.
- Jatoi N, Jotai NM, Sheikh F, Serichand P. Key to successful vesicovaginal fistula repair: an experience of urogenital fistula surgeries and outcome at gynaecological surgical camp 2005. *J Ayub Med Coll Abbottabad* 2008;20:125-7.
- Blaivas JG, Heritz DM, Romanzi LJ. Early versus late repair of vesicovaginal fistula: vaginal and abdominal approaches. *J Urol* 1995;153:1110-2.
- De Ridder D. Vesicovaginal fistula: a major health care problem. *Curr Opin Urol* 2009;19:358-61.
- Ahmad S, Nishtar A, Hafeez GA, Khan Z. Management of vesicovaginal fistula in women. *Int J Obstet Gynaecol* 2005;88:71-5.
- Ezegwvi HU, Nwogu I, Kojo EE. Vesicovaginal fistula in eastern Nigeria. *J Obstet Gynaecol* 2005;25:589-91.
- Hilton P. Vesicovaginal fistula in developing countries. *Int J Obstet Gynaecol (Ireland)*

- 2003;82:285-95.
15. Bhadra D, Bhattacharjee D, Mandal TK, Sengupta P, Pal A, Hazra SK. Genito-urinary fistula--an evaluation. *J Indian Med Assoc* 2008;106:24.
 16. Browning A, Member B. Women with obstetric fistula in Ethiopia: a 6 months follow up after surgical treatment. *Br J Obstet Gynecol* 2008;115:1564-9.
 17. Kumar A, Goyal NK, Das SK, Trivedi, Dwivedi US, Singh PB. Our experience with genitourinary fistulae. *Urol Int* 2009;82:404-10.
 18. Goodwin WE, Scardino PT. Vesicovaginal and urethrovaginal fistulas: a summery of 25 years of experience. *J Urol* 1980;123:370-4.
 19. KamMH, Tan YH, Wong MY. A 12 year experience in the surgical management of vesicovaginal fistulae. *Singapore Med J* 2003;44:181-4.
 20. Otsuka RA, Amaro JL, Tanaka MT, Epacagnan E, Mendes JB Jr, Kawano PR, et al. Laproscopic repair of vesicovaginal fistulae. *J Endourol* 2008;22:525-7.
 21. Hadzi I, Jokic J, Pejcic TP, Acimovic M. Vesicovaginal fistula: report of 220 cases. *Int Urol Nephrol* 2009;41:299-302.
 22. Elkins TK. Surgery for the obstetric vesicovaginal fistula: a review of 100 operations in 82 patients. *Am J obstetric Gynaecol* 1994;170:1108-20.
 23. Khan AL, Khan M, Bano A. Vesicovaginal fistula: surgical management. *Professional Med J* 2004;11:261-6.
 24. Mubeen RM, Naheed F, Anwar K. Management of vesicovaginal fistula in urological context. *J Coll Physician Surg Pak* 2007;17:28-31.
 25. Gozen AS, Teber D, Canda AE, Rassweiler J. Transperitoneal laproscopic repair of iatrogenic vesicovaginal fistulas: heilbronn experience and review of literature. *J Endourol* 2009;23:475-9.
 26. Nerli RB, Reddy M. Transvesicoscopic repair of vesicovaginal fistula. *Diagn ther Endosc* 2010;2010:760348.
 27. Nardos R, Browning A, Member B. Duration of bladder catheterization after surgery for obstetric fistula. *Int J Gynaecol Obstet* 2008;03:30-2.
 28. Khan RM, Raza N, Jehanzeb M, Sultana R. Vesicovaginal fistula: an experience of 30 cases at Ayub Teaching Hospital Abbottabad. *J Ayub Med Coll Abbottabad* 2005;17:48-50.
 29. Sachdev PS. Surgical repair of vesicovaginal fistula. *J Coll Physicians Surg Pak* 2002;12:223-6.
 30. Savan K, Ekin M, Kupelioglu L, Oral S, Yasar L. Surgical repair of genitourinary fistula: comparison of our experience at Turkey and Niger. *Arch Gynecol Obstet* 2010;282:649-53.

CONTRIBUTORS

AH conceived the idea and planned the study. MAJ, MA & AG did the data collection and analyzed the study. All the authors contributed significantly to the research that resulted in the submitted manuscript.