

A Study on Different Surgical Methods used for Repair of Vesicovaginal Fistulas in Dhaka Medical College Hospital

Homaira R¹, Khatun S²

Abstract:

This cross sectional study was carried out on hundred patients of vesicovaginal fistula who were admitted and underwent surgical treatment in Dhaka Medical college Hospital (DMCH), Dhaka, during the period of January, 2001 to June, 2003. The aim of this study was to obtain the outcome of the different methods of repair of different types of vesicovaginal fistula. An in-depth interview was taken from patients by using an open ended questionnaire. Necessary information about the procedure applied, together with results of operation were recorded in the data sheet. The result of this study showed that the anatomical success in closure of fistula occurred in 94% cases. In 38% of cases the size of the fistula were small in size, in 49% cases location were at the Junction of bladder neck, 78% of cases experienced no postoperative complications. Route of operation were vaginal in 84% cases. Previous attempt of repair were in 62% cases whereas in 38% women had history of operation. Obstetric vesicovaginal fistula is a curable condition. The success rate has been increased over time. More complicated cases which have been failed in previous attempts of repair are being referred. Most of the unsuccessful repair were bad cases (2%). So more training and experience of surgeons for repair of fistulas, employing modified technique wherever applicable can improve the result.

INTRODUCTION

Genitourinary fistula is the greatest misfortune that can happen to a woman. It also remains a major clinical problem confronting gynaecological surgeons in the developing countries^{1,4}.

Fistulas result chiefly from obstetric injury, operative injury, malignancy, radiation, trauma, infections, etc. Different types of genitourinary fistulas can occur, and among them

vesicovaginal fistula is the commonest. Eighty to ninety percent vesicovaginal fistulas result from obstetric injury². The best known and most common of these injuries are from obstructed labour which is about 80%. When obstructed labour is unrelieved, the presenting fetal part is impacted in the pelvis which compresses soft tissue between the fetal head and pubic bone. As a result widespread ischemic vascular injury develops in the bladder and vaginal wall result in tissue necrosis and subsequent vesicovaginal fistula formation³.

Fistula can be diagnosed by history and thorough clinical examination. Patient should be examined under general anaesthesia, if necessary, to assess the nature of the fistula accurately and also to plan the appropriate type of surgery.

Repair of genitourinary fistula remains a major challenge to surgeons worldwide with many acceptable surgical techniques. Large defect of partial or total urethral loss are specially difficult to repair. Moreover, other associated conditions, such as vaginal stenosis, sphincteric damage, rectovaginal fistula, etc. makes surgery much more difficult. In these cases, modified techniques other than flap splitting method have to be applied to achieve the goal. Techniques of bringing new tissues for support and neovascularization should be considered. These include mobilization of the bulbocavernosus muscle and fat pad from the labia, the gracilis muscle from the inner thigh, or an omental fat pad. In many cases, though anatomical restoration is possible, physiological recovery is unsatisfactory^{3,7}.

The study was designed to assess the outcome of repair of vesicovaginal fistula by different surgical methods.

MATERIALS AND METHODS

It is a cross sectional study done in the department of obstetric & gynecology of Dhaka Medical College Hospital during the period of January 2001 to June 2003. One hundred patients of vesicovaginal fistula resulting from obstetric cause who were admitted and underwent surgical treatment of DMCH were enrolled in this study. Fistula following gynaecological surgery and malignant fistula were excluded. A data collection sheet was used to collect the data. A detailed history was taken by interviewing the

- 1 Dr. Rhea Homaira FCPS
Assistant Professor Department of Obstetrics and Gynaecology
Bangabandhu Sheikh Mujib Medical University, Dhaka.
- 2 Professor Sabera Khatun FCPS
Professor Department of Obstetrics and Gynaecology
Bangabandhu Sheikh Mujib Medical University, Dhaka.
- 3 Dr. Fahmida Zabin
Associate Professor Department of Obstetrics and Gynaecology
Bangabandhu Sheikh Mujib Medical University, Dhaka.

patient and attendance. The information recorded on data collection sheet was based on type and location of fistula, previous attempts of repair, postoperative complications, approach to local repair, final result of operation and reason for operative future.

Thoroughly, examination was done in each case, first in out patient department, then in gynecological ward. All the patients had their fistula confirmed by vaginal examination using a Sims speculum. Fistula was visualized noting its number, size, anatomical location and surrounding tissue (Table-1).

Table-I: Type and location of fistula (n=100)

Fistula	Number of patients	Percentage
Type		
Small	38	38.0
Medium	36	36.0
Large	26	26.0
Location		
Base	38	38.0
Neck	49	49.0
Juxtracervical	13	13.0

When there was difficulty, examination under anesthesia was done with patient in lithotomy position. Cystoscopy and intravenous urogram were done whenever indicated. Surgery was done in all patients. Surgical details were obtained from the operation notes. Each case was followed up during postoperative period until discharge. Postoperative complications and results were noted down.

The causes of failure were analyzed in consultation with senior gynaecologist. All relevant necessary information and clinical data were systematically recorded and analysis was done by different statistical test.

RESULTS

All information about the hundred cases of vesicovaginal fistula who were admitted and underwent surgical treatment into Dhaka Medical college Hospital (DMCH), Dhaka were compiled and relevant data were analyzed and shown in tabulated form.

Table-I shows the type and location of fistulas. Small and medium sized fistulas were almost similar in number (38% and 36%). Large size fistulas were 26%. Almost half of the fistulas (49%) were located at the bladder neck. Thirty eight percent fistulas were located at the bladder base. Only 13% were situated near the cervix.

Sixty two percent patients had repair of VVF for the first time. In 28% patients it was second attempt, in 4% and 6%

it was third and fourth attempt. Table-II showing the figures.

Table-II: Previous attempts of repair (n=100)

History	Number of patients	Percentage
None	62	62.0
One	28	28.0
Two	4	4.0
More than two	6	6.0

Postoperative complications were minimum. These are described in table-III. 78 percent experienced no postoperative complications, however, 20 percent suffered from urinary tract infection and retention was observed in 2 percent cases.

Table-III: Postoperative complication (n=100)

Complications	Number of patients	Percentage
UTI	20	20.0
Retention	2	2.0
None	78	78.0

Route of operations were vaginal in 84 (84%) cases, abdominal in 10 (10%) cases and abdominoperineal in 6 (6%) cases (Table-IV).

Table-IV: Approach to local repair (n=100)

Operation	Number of patients	Percentage
Vaginal	84	84.0
Abdominal	10	10.0
Abdominoperineal	6	6.0

Though among 100 cases underlying operation, 84% could achieve the anatomical success, 10% developed urinary incontinence. Rest 6% had failed repair of VVF (Table-V).

Table-V: Outcome of operations (n=100)

Outcome	Number of patients	Percentage
1. Closure of fistula	94	94
No dribbling	84	84.0
Wet in between	8	8.0
Stress incontinence	2	2.0
2. Failed	6	6.0

Out of 6 cases of failed VVF repair the reasons identified were bad case in 2 (33.3%), postoperative mismanagement in 2 (33%) and catheter problem in 2 (33.3%) cases Table-VI).

Table-VI: Reasons for operative failure (n=100)

Reasons	Number of patients	Percentage
Inappropriate or bad case	23	3.3
Postoperative mismanagement	23	3.3
Catheter problem	23	3.3

DISCUSSION

Genitourinary fistula is a real misery for the women in the developing countries and major cause being obstructed labour mostly. This cross sectional study includes 100 cases of obstetric vesicovaginal fistula who were admitted and operated in the Department of obstetrics & Gynecology of Dhaka Medical College Hospital during January, 2001 to December, 2005. This study showed that 38% fistula were small in size. The previous study in Dhaka Medical College Hospital done by Aktarunnesa⁹ in 1998 revealed a much higher percentage of small size fistula i.e. 62% and much lower percentage of large fistula (6% Vs 26%) This probably reflects a situation where more small fistula are being repaired successfully outside Dhaka Medical College Hospital. However, frequencies of fistula type according to location are almost similar.

In comparison to previous study⁹ there were more patients with previous failed attempt at repair 18% Vs 38% in this study. That means presently, Dhaka Medical College Hospital is dealing with more complicated cases than before.

Regarding the approaches to local repair, the present study reveals that the vaginal route is most frequent, followed by abdominal and abdomino perineal. The findings are similar to study done previously in Dhaka Medical College Hospital^{9,11}. So, the approaches have not been changed over the decades. Similar predominance of vaginal route indicated in other countries as well.¹⁰

But there is one study¹², where transabdominal route was used three times more frequently than transvaginal route. Generally, gynecologist prefer vaginal route. Postoperative complication in the present study was 22% which is almost comparable to that of previous study⁹. In this study no post operative wound infection was revealed. Urinary tract infection was the commonest postoperative complication.

In this study, failure rate is 6% similar to that of Kelly J.¹⁰ But Begum A¹¹ and Aktarunnesa⁹ had higher failure rates 8% and 6% respectively. We had 2% cases of stress incontinence compared to 9% in study by Kelly J¹⁰ and 29% in study by Aktarunnesa⁹. There were 8 cases who had occasional dribbling following the operation specified as "wet in between" in result of operation in this study. This may be considered as cases of partial success. But there

were no such entity in previous studies^{9,10,11}.

CONCLUSION

This study has clearly analyzed the outcome of repair of vesicovaginal fistula. Most of the cases (94%) had successful closure of fistula in Dhaka Medical College Hospital. Failure rate has decreased over time. More complicated cases have been failed previously. More training and skill of surgeons for repair of fistulas, employing modified techniques where ever applicable can improve the result. Postoperative mismanagement and catheter problem can be minimized to get maximum successful outcome of repair.

REFERENCES

1. Thompson JD. Vesicovaginal and urethrovaginal fistulas. In: Rock JA, Thompson JD, editors. *Textbook of operative gynecology*. 8th ed. Lippincott Williams and Wilkins, 1997:1175-206.
2. Dutta DC. Obstructed labour. In: Konar H, editor. *Textbook of obstetrics*. 5th ed. Calcutta: Central Book Agency, 2001:434-6.
3. Tindall VR. Genital tract fistulas. In: Jeffcoate's principles of gynaecology. 6th ed. Butterworth-Heinemann Ltd. 2001:249-58.
4. Goodwin WE, Scardino PT. Vesicovaginal and ureterovaginal fistula: a summary of 25 years of experience. *J Urol* 1980;123:370-4.
5. Cardozo L. Urinary incontinence. In: Edmonds DK, editor. *Dewhurst's textbook of obstetrics and gynaecology for postgraduates*. 6th ed. Blackwell Science, 1999:474-505.
6. Zacharin RF. A history of obstetric vesicovaginal fistula. *Aust NZ J Surg* 2000;70:851-4.
7. Hudson CN, Stechell M, Howkins J. Genital fistula. In: *Show's textbook of operative gynecology*.
8. Monaghan JM. Repair of fistula. In: *Bonney's gynecological surgery* 10th ed. Bailliere – Tindall, 2000:201-2.
9. Aktarunnesa. Outcome of repair of genitourinary fistula using different modified technique [dissertation]. Dhaka: Bangladesh College of Physicians and Surgeons, 1998.
10. Kelly J. Vesicovaginal and rectovaginal fistula. *J Royal Soc Med* 1992;85.
11. Begum A. Outcome of surgical repair of vesicovaginal fistula. *J Dhaka Med Coll* 1996;5:16-20.
12. Woo HH, Rosario DJ, Chapple CR. The treatment of vesicovaginal fistulas. *J Eur Urol* 1996;29:1-9