Bladder-only Repair Of Vesicovaginal Fistula: Twelve Years Experience In South-eastern Nigeria

Author(s): Dr. Eric Nwogu-Ikojo, Dr. Chibuike Chigbu, Prof. Gabriel Iloabachie

Corresponding Author:
Dr. Eric Nwogu-Ikojo,
Lecturer, University of Nigeria - Nigeria

Submitting Author:
Dr. Eric Nwogu-Ikojo,
Lecturer, University of Nigeria - Nigeria

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Abstract

OBJECTIVE: The aim of this study is to review the outcome of repair of vesicovaginal fistula in which only the bladder wall defects were repaired leaving the vaginal wall defects unrepaired.

METHOD: A review of the outcome of 87 bladder-only repair of vesicovaginal fistulas done at the University of Nigeria Teaching Hospital, and Aghaeze Hospital, Enugu, Nigeria, in a 12-year period from 1st January 1992 to December 31st 2004.

RESULTS: 67(74.7%) were juxtacervical, 13(14.9%) Juxtaurethral and 9(10.3%) midvaginal. Average fistula size was 2.3 cm. 76(87.4%) were closed successfully at first repair and 11 failed. Nine of these were repaired successfully at second attempt. There was no case of urinary tract infection post repair and average hospital stay was 15.6 days.

CONCLUSION: The repair of only the bladder wall defect in the surgical management of vesicovaginal fistula has very good outcome.

Introduction

Vesicovaginal fistula is a common gynecological problem in developing countries resulting mainly from prolonged obstructed labor. Vesicovaginal fistula imposes a great deal of medical, social, and psychological distress on the patient and is considered as one of the most dehumanizing conditions that afflict women.

The repair of juxtacervical fistula can be approached via the abdominal or vaginal route [1]. There are also reports of two-stage repair of giant vesicovaginal fistula employing both the abdominal and vaginal routes [2]. Various techniques have been described for the repair of vesicovaginal fistula. However, most reported techniques employ the traditional method of closing both the bladder wall defect and the vaginal wall defect without tension on the suture lines [3,4,5]. Some surgeons align the bladder wall and vaginal repair lines in perpendicular plane to each other to avoid tension [6]. In an attempt to reduce the strain at the site of anterior vaginal closures, surgeons employ various strategies including extensive vaginal dissection and mobilization from the underlying vesicovaginal endopelvic fascia [3]. Reports on bladder-only repair are scarce, if any. This study reports the outcome of bladder-only repair of vesicovaginal fistula undertaken over a twelve-year period. The University of Nigeria Teaching Hospital, Enugu, Nigeria serves as a referral centre for repair of vesicovaginal fistula in the South Eastern states of Enugu, Ebonyi, Anambra, Imo, and Abia states, as well as Benue state of Nigeria. Aghaeze Hospital, Enugu is a specialist gynecological center located in Enugu metropolis, Enugu State, Nigeria.

Methods

The data of all vesicovaginal fistulas repaired using the bladder-only repair technique at the University of Nigeria Teaching Hospital and Aghaeze Hospital, Enugu, Nigeria, over a 12-year period from 1992 to 2004 were retrieved from the records. Data on the cause of fistulae, primary repair success rate, type of fistula, route of repair, size of fistula, postoperative urinary tract infection rate, and duration of hospital stay and cause of failure of repair were extracted. The data was then analyzed using simple percentages.

The operative technique used in this series was the flap splitting technique, which involves dissecting off the bladder wall from the vaginal wall. However, in this series, only the bladder wall defects were closed, usually in two layers. The vaginal wall defects were left unrepaired. This prevents hematoma and seroma formation as it allows free drainage of fluid through the vaginal wall defect. It also prevents further constriction of the vaginal lumen in an attempt to achieve good apposition. This is unlike the conventional technique of fistula repair, where both the vaginal and bladder wall defects were closed [3,4,5,6].

Successful primary repair are those in which complete fistula closure were achieved with the first repair.
Results

During the 12-year period, 87 vesicovaginal fistulas were repaired using the bladder-only repair technique. 65 (74.7%) were Juxtacervical fistulas, 13 (14.9%) were Juxtaurethral fistulas and 9 (10.3%) were midvaginal fistulas. Prolonged obstructed labor was responsible for 85 (97.7%) while forceps delivery was identified as the etiological factor in 2 (2.3%) of the cases. The sizes of the fistulae ranged from 0.5 cm to 5 cm with a mean of 2.3 cm. 76 (87.4%) of the fistulas were successfully closed at first operation while 11 (12.6%) failed. Nine of the primary repair failures were successfully closed at second repair attempt using the same principle of repair, while two were lost to follow up. No case of postoperative urinary tract infection was recorded. The mean duration of hospital stay was 15.6 days with a range of 14 – 26 days.

Discussion

Vesicovaginal fistula is a major public health problem in Nigeria. Prolonged obstructed labor remains the commonest cause of vesicovaginal fistula in the developing world as was observed in this study [7,8,9,10]. The success rates observed in this study are similar to that reported by other authors [8,11]. However, these authors did not clearly specify whether closure of the vaginal wall was done in their series. The routine use of prophylactic antibiotics in all the cases may have contributed to the absence of postoperative urinary tract infection [12].

Earlier authors on vesicovaginal fistula repair described the picking up of the underside of the vaginal wall with sutures of the second layer of the bladder wall repair. This was followed by complete repair of the vaginal wall. This was done to obliterate any dead space between the vagina and bladder in an effort to prevent hematoma formation [4,5]. The non-repair of the vaginal wall defects in this series may translate to less number of suture materials used per surgery and possibly decreased operating time. Whether this translates to decreased cost and decreased post surgical morbidity for the patient is unknown. Furthermore, the effect of the bladder-only repair technique on operative and postoperative blood loss is yet to be determined. The suture materials were mainly chromic catgut number 2/0 and few cases of vicryl number 2/0 in continuous or interrupted stitches, due to the cheaper cost of chromic catgut and its availability within our practice environment. Continuous bladder drainage with Foley’s urethral catheter was done for a minimum of 14 days in each case. Removal of the urethral catheter was done on the 14th postoperative day and the patients were discharged on the 15th day if total urinary continence was achieved. However, the catheter may be re-inserted and continuous bladder drainage done for a maximum of 12 additional days in cases where urinary continence was not achieved on the 14th postoperative day. A second repair was usually done after 3 months for cases of failed primary repair. The vaginal skin is usually well healed at the time of removal of the catheter. No case of postoperative vaginal stenosis was recorded.

Conclusion(s)

In conclusion, bladder-only repair of vesicovaginal fistula is easy and effective irrespective of the route of repair. Application of this technique will circumvent the problem of tension at the site of anterior vaginal wall closure, which is a major cause of breakdown and failure of repair. A randomized controlled trial is recommended to study all current techniques of fistula repair.

Authors Contribution(s)

DR EE NWOGU-IKOJO & DR CO CHIGBU COLLECTED THE DATA AND DID THE ANALYSIS; ALL AUTHORS WERE INVOLVED IN PREPARING THE MANUSCRIPT AND APPROVED THE FINAL DRAFT.

Reference(s)


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