



LAPROSCOPIC O'CONOR'S REPAIR IN IATROGENIC VESICO VAGINAL FISTULAS

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ABSTRACT **Aims and objectives:** To present our experience with laparoscopic O'conor's repair in iatrogenic vesico vaginal fistulas. **Materials and methods:** A retrospective review of all cases who underwent laparoscopic O'conor's repair for iatrogenic vesico vaginal fistulas between July 2013 to July 2017 at Nizam's institute of medical sciences, Hyderabad was done. A Total of 16 cases were included in the study. This being our initial study, failed vvf repair cases were not included. In all the cases the cause was iatrogenic (hysterectomy). All the cases were operated by single surgeon. All the preoperative and postoperative data including success after the procedure has been reviewed. **Results:** In 3 cases ileus persisted for three days which was managed by putting patient nil per oral and Ryle's tube aspiration. Drain output ranged from 70-120 ml/day. Drains were removed on 3rd to 5th post operative day. Patients were discharged by urethral catheter in situ. On follow up after removal of catheter 6 cases reported urgency and frequency which was managed with anticholinergics and antibiotics as required. All cases did well during post operative period and follow up without any involuntary urinary leakage as complaint. **Conclusion:** Laparoscopic O'conor's repair in iatrogenic vesico vaginal fistulas is as promising as like other options.

KEYWORDS :

INTRODUCTION:

Vesicovaginal fistula (VVF) is a subtype of female urogenital fistula (UGF). VVF is an abnormal fistulous tract extending between your bladder and also the vagina which allows the continuous involuntary discharge of urine into the vaginal vault.¹ Most times iatrogenic vesicovaginal and recto-vaginal fistulas are due to severe adhesions, excessive sewing, incorrect electric coagulation hemostasis, and neglected injury of the bladder wall or rectum wall during the operation. Ninety percent of the vesicovaginal fistulas (VVF) are produced after a hysterectomy, with a frequency of one in 1,800 cases.^{1,2} For patients after a vaginal delivery, vesicovaginal fistulas are caused by prolonged fetal head compression. The size of fistulas was always large in this situation. Various surgical paths, such as transvaginal, transabdominal, transrectal or a combination have been used to repair the fistulas. The trans-abdominal approach is the standard surgical approach for fistula repair, but this method is limited by large injuries and a small field of vision. The laparoscopic repair of fistulas has the advantages of minimal access surgery including minimal wound complications, less blood loss, less postoperative pain and shorter hospital stays.³ In certain selected cases with small fistulas treatment can be conservative, with a very low success rate. When this management fails, surgical treatment is the option and has success rates as high as 97%; however, recurrence rates of up to 10% have been reported. Nezhath et al.³ were the first to publish a report on the laparoscopic treatment of a VVF. There are very few reports on laparoscopic approaches in relation to complex VVFs. In this study, we investigated the results of our laparoscopic repair in patients with vesicovaginal fistulas.

Materials and methods :

A retrospective review of all cases who underwent laparoscopic O'conor's repair for iatrogenic vesico vaginal fistulas between July 2013 to July 2017 at Nizam's institute of medical sciences, Hyderabad was done. Medical records in view of history, physical examination, cystourethroscopy, and an intravenous urogram or a computed tomography scan with contrast medium to exclude ureter involvement were reviewed retrospectively. All patients' fistulas were documented at the time of the initial out patient visit at which cystoscopy was performed.

Laparoscopic O'conor's repair of vesico vaginal fistula was performed in all our cases.

Procedure

Cystoscopy was performed and a ureteral stent was placed in the VVF to help identify the fistula at the time of the dissection. Ureteral stents were placed to prevent inadvertent injury to ureteric orifices.

A 10-mm port for the telescope was placed at the upper edge of the umbilicus after creating pneumoperitoneum using open Hasson's technique. Two additional 5-mm ports were placed in each iliac fossa and a 4th 5-mm port for retraction when necessary. The patient was then put in the Trendelenberg position with a head-down tilt of about 20° to allow the bowel to fall away from the pelvis. The bladder was retrograde filled with normal saline until the vesicovaginal reflection could be adequately identified and cystostomy was performed.

The cystostomy was extended upto the fistula. A plane between the bladder and vaginal wall was developed by sharp dissection. The fistula was circumferentially dissected to make completely free from bladder wall. The anterior bladder wall and dome were lifted up and tucked gently against the inner surface of anterior abdominal wall by a silk thread inserted percutaneously mounted on laparoscopic fascial port closure needle. The silk thread was removed at the end of the procedure. The vaginal opening of fistula was closed by 3-0 polygalactin as interrupted single layer. The ureteric catheter lying in fistulous opening was pulled out before tying the final knot. The omentum was tucked at the suture line. The bladder was then closed as single layer continuous suture by 3-0 polygalactin. The bladder was filled by 200 to 300 ml of normal saline under gravity to check any apparent leakage and additional interrupted suture was taken at leakage sites. The omentum was also tucked to the bladder suture line in its most distal part.

After confirming good primary closure of the bladder. The bladder suture line integrity test was performed again, by filling the bladder with saline/sterile water solution. All suturing was performed laparoscopically, using intracorporeal knot tying. Cystoscopy was performed after bladder closure. A 20Fr Urethral catheter was placed in bladder transurethrally. The laparoscopic ports were removed and all sites were closed.

The transurethral catheter was usually removed within 2 weeks.

We analyzed patients' charts for age, reason for fistula, previous VVF repair failures, estimated blood loss, hospital stay, and operative complications.

Postoperatively, patients were encouraged to come back at either 14 or 21 days and then at 3 months, 6 months, and yearly. They were also encouraged to call if surgical failure was suspected. Patients returned to the out patient department 2-3 weeks postoperatively and a cystoscopy and retrograde bladder fill was performed. If the cystoscopy and the vaginal examination confirmed a successful repair.

Results:

Of the 16 cases which were taken up for laparoscopic repair two cases have to be open due to failure to progress in view of dense bowel adhesions. In 14 cases laparoscopic repair could be completed. In 3 cases ileus persisted for three days which was managed by putting patient nil per oral and Ryle's tube aspiration. Drain output ranged from 70-120 ml/day. Drains were removed on 3rd to 5th post operative day. Patients were discharged by urethral catheter in situ. On follow up after removal of catheter 6 cases reported urgency and frequency which was managed with anticholinergics and antibiotics as required. All cases did well during post operative period and follow up without any involuntary urinary leakage as complaint.

Discussion:

Vesicovaginal fistula (VVF) is a subtype of female urogenital fistula (UGF). VVF is an abnormal fistulous tract extending between your bladder and also the vagina which allows the continuous involuntary discharge of urine into the vaginal vault.¹ Most times iatrogenic vesicovaginal and recto-vaginal fistulas are due to severe adhesions, excessive sewing, incorrect electric coagulation hemostasis, and neglected injury of the bladder wall or rectum wall during the operation. Simple abdominal hysterectomy or hysterectomy due to benign disease continues to be the most frequent cause of VVF in our present study. Other procedures that can produce VVF are anterior colpoprolineorrhaphy and suspension can also cause VVF.⁴

The O'Connor transvesical technique was performed via laparotomy for more than 30 years before the first laparoscopic transvesical case was published in 1994.^{5,6} The traditional O'Connor technique involves a transvesical approach requiring bivalving of the bladder.¹ In our present series of 16 cases in all we have performed classical O'Connor's repair laproscopically for treating vesico vaginal fistulas with promising result and better surgical outcome.

Our experience with intravesical laproscopic repair of vesico vaginal fistula is that the intravesical technique is a easy access to fistula, less traumatic, and possibly a more patient-friendly repair. Using the intravesical VVF site-specific dissection removal of necrotic or fibrotic tissue so there can be healthy wellirrigated tissue, a preferably negative urine culture, complete excision of the fistulous tract, tension-free closure, and placement of vascularized healthy tissue between the vagina and the bladder, layered closure technique and continuous drainage postoperatively has good result.

Other studies have also reported great success using the intra vesical VVF closure with layered-bladder closure technique with and without omental flaps.^{7,8}

Conclusion:

Laposcopic Intravesical O'Connor's repair of VVF in iatrogenic vesico vaginal fistulas is as promising as like other options.

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