International Journal Dental and Medical Sciences Research
Volume 5, Issue 2, Mar - Apr 2023 pp 759-760 www.ijdmsrjournal.com ISSN: 2582-6018

Laparoscopic Transvesical VVF Repair: Single Center Experience

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Date of Submission: 05-04-2023 Date of Acceptance: 15-04-2023

ABSTRACT
Background: Vesicovaginal fistula (VVF) is an embarrassing condition for women. Various routes of surgical intervention exist for the management of VVF. Laparoscopic repair is safe and effective.
Aim and objective: To review the success rate of laparoscopic repair of VVF and to highlight the benefits/advantages of the laparoscopic transvesical approach.
Materials and methods: Using data at B J Medical college, civil hospital, Asarwa, Ahmedabad who underwent VVF repair by laparoscopic transvesical approach between Jan 2021 to Dec 2022 were reviewed with other studies. Outcome measures from these studies were success rate, mean blood loss, mean operating time, length of hospital stay, major intraoperative complications, and conversion to open surgery, recurrence on follow up.
Results: Total 15 patients admitted at Civil hospital and diagnosed as VVF. Mean blood loss ranged from 40 to 100 mL, length of hospital stay ranged from 1.1 to 7 days while the mean operating time ranged from 110 to 240 minutes. There was no any major intraoperative complication or conversion to open surgery.After a follow up of 3 months no recurrence found.
Conclusion: Laparoscopic transvesical repair of VVF has a high success rate and is a safe,feasible and cost-effective route for surgical management of VVF.

I. BACKGROUND:

Vesicovaginal fistula (VVF) is an abnormal channel between bladder and vagina that results in urinary leakage. It is usually associated with gynecologic procedures such as abdominal or vaginal hysterectomy. Surgical repair remains the primary method of treatment after a failed attempt with conservative measures. Nowadays, several surgical techniques have been developed for VVF treatment depending on the etiology, location, severity, size of the fistula and experience of the surgeon. Laparoscopic repair of VVF has become the first-line approach because of its safety and effective minimally invasiveness. We describe our experience with laparoscopic VVF repair.

AIMS AND OBJECTIVE:
To review the success rate of laparoscopic repair of VVF and to highlight the benefits/advantages of the laparoscopic transvesical approach.

II. MATERIAL AND METHODS:

From January 2021 to December 2022, we performed laparoscopic vvf repair operations for 15 patients ranged from 26 to 65 years of age (mean age 44.6 ± 3.2 years) who were diagnosed as VVF. The fistulas of all 15 cases were the results of gynecologic surgical procedures and cystoscopy could reveal their fistulous opening between the bladder and vagina.

First of all, cystoscopy guided bilateral ureteric catheterisation and guidewire kept into fistulous tract. A Foley catheter was placed into bladder and vagina packed with gauze pad. A primary 10 mm port was inserted at the umbilicus, and then established the pneumoperitoneum routinely. Two other ports (5 and 10 mm) were placed in the inferior abdominal wall. Then, the peritoneum over bladder was dissected and transverse or sagittal cystotomy done and reached upto the fistula. Plane made between bladder and vaginal wall with gentle dissection, fistula closure with vicryl 3-0 suture and then after cystotomy closure done with v lock 3-0 sutures. Omentopexy was done b/w vagina and bladder. AnADK drain was kept in pelvis. Bladder drainage was accomplished by an urinary indwelling of a Foley catheter. Ureteric catheter removed on POD-3, catheter removed after cystogram on POD 15-20 days.

III. RESULTS:

All 15 operations were successfully completed. There was no conversion to open in all patients. There were no intraoperative or postoperative complications occurred. The mean operative time was 155 min (range 110 to 240 min.

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The mean blood loss ranged from 40-100 mL (mean loss 68 mL). After a follow up of 3 months, no recurrence was found. Comparing with other studies:-

STUDY	NO OF PTS	MEAN BLOOD LOSS	HOSPITAL STAY	MEAN OPERATING TIME	COMPLICATIONS	CONVERSION	CURE RATE
Sharma et al	22	75	5	140	0	0	100
Shuah et al	22	180	4.5	145	0	0	86
Javali et al	22	35	1.5	75	0	0	100
Mallikarjuna et al	20	30	2.5	54	0	0	100
Our study	15	68	4	155	0	0	100

IV. CONCLUSION:

Based on our clinical practices and experiences, there are two key points to insure the success of operation: the precise location and confirmation of the fistula, the smooth coordination of laparoscopy and cystoscopy. We believe that laparoscopic repair of vesicovaginal fistula is a feasible, effective, and minimal-invasive approach for the treatment of vesicovaginal fistula.