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Original Article

PER ABDOMINAL REPAIR OF VESICO-VAGINAL FISTULA SURGICAL EXPERIENCE OF 30 CASES

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ABSTRACT:

Objectives: To asses success of per abdominal repair of vesicovaginal Fistula.
Design & Duration: Prospective descriptional study of 30 cases over a period of Three years.
Setting: Department of Urology, Peoples Medical College, Nawabshah.
Material And Method: 30 patients of vesicovaginal fistula were selected during the Year 2003 to 2005. Patients were evaluated; those patients were included who had supra trigonal multiple or single vesicovaginal fistulas due to gynecological & obstetrical surgery, and were repaired by the abdominal approach.. The outcome of the procedure and postoperative complications were observed and recorded.
Results: Successful results were achieved in 26 (86.67%) cases while 4 (13.33%) cases developed recurrences with in month.
Conclusion: The approach used depends very much on the proper selection of cases, and experience of surgeon as well as timing of repair at least 3 months.

Key words: Vesicovaginal fistula, incontinence, abdominal approach.

INTRODUCTION

A vesicovaginal fistula is an abnormal communication between the urinary bladder and the vagina. It is mostly the problem of developing nations as a devastating complication of poorly managed labor and gynecological surgeries[1]. Globally about 3.5 million women are living with genitourinary fistula, a miserable condition[2]. Vesicovaginal fistulas present a debilitating and stressful condition for women in all parts of the world[3]. Vesicovaginal fistula among the most distressing complication of obstetric and gynecological procedures[4]. It is rare in developed countries and common in developing countries because of low standard of antenatal and obstetrical care as well as deficient surgical techniques. Its main impact lies in the social distress that results from the persistent leakage of urine[5]. The true incidence of this problem is unknown as many such women with fistula never come to medical attention[6]. Surgical repair remains the primary method of treatment, regardless of the etiology. Controversies still exist regarding the timing and surgical approach of vesicovaginal fistula repair[7].The goal of treatment of vesicovaginal fistula is the rapid cessation of urine leakage with return of normal and complete urinary and genital function, it has been stated that the best opportunity to achieve successful repair of vesicovaginal fistula is the with the initial operation. The best approach is probably the one with which the surgeon feels most experienced and comfortable[7].
Different approaches are adopted for the repair of vesicovaginal fistula with variable success rates. In the current study we reviewed the causes of vesicovaginal fistula and repair through trans abdominal approach which is common practice in our setup.

MATERIAL AND METHODS.

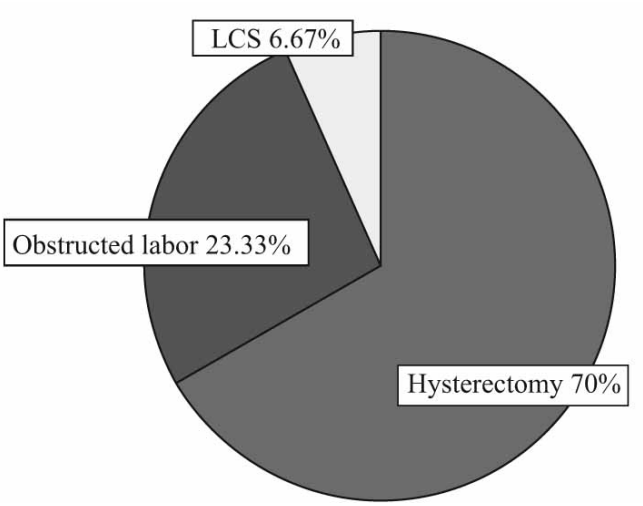
This prospective descriptional study was conducted from 2003-2005 in the department of urology at Peoples Medical College Hospital Nawabshah. Thirty (30) patients were

selected who were referred by primary and secondary health care centers as well as private practitioners. Patients were included who had supra trigonal, greater than 3cm, single or multiple vesicovaginal fistulae due to gynecological and obstetrical surgery for benign disease and obstructed labor, while those patients who had fistula < 3cm, trigonal, Sub trigonal and fistula due to surgery for malignant disease and radiation, were excluded from the study. All the patient's complained of persistent leakage of urine. They were evaluated preoperatively by detailed history, physical and clinical examination. Routine investigations such as Blood CP, Random Blood sugar, urea and creatinine, chest x-ray special investigations included urine culture and sensitivity, ultrasonography KUB and intravenous urography. Cystoscopy was mandatory to determine the site, size, numbers of fistulae, relation of ureteric opening to fistula and mucosa around the fistulous opening. Urinary tract infection was treated according to urine culture and sensitivity report. The minimum time of repair was at least 3 months. At the time of surgery, ureteric catheterization was done in all patients. Patients were managed with per abdominal approach. Technique: using an infraumbilical midline incision. Laparotomy was performed and the peritoneal cavity was entered. The posterior wall of the bladder was dissected free as much as possible. The bladder was bivalved at the dome, extended posterior to the level of the fistula, stay sutures were placed sequentially along the incisional margins after every few centimeters to permit traction and elevation of the bladder wall in order to achieve proper exposure and dissection. Ureteral orifices and the location of fistula (s) identified. The fistulous tract, scarred and necrotic tissue were resected. Dissection of the posterior wall of the bladder from the underlying endo-pelvic fascia and vagina was completed. The bladder and vagina were closed in separate layers by absorbable sutures such as chromic 2/0 and vicryl 2/0. Bladder was drained by wide bore suprapubic cystostomy and urethral catheter. Urethral catheter was removed on 5th post operative day till the urine clears. Suprapubic Cystostomy was clamped on the 14th day and removed on 15th post operative day. Successful patients were discharged 24 to 48 hours after the removal of suprapubic cystostomy. The follow up of every patient was 6-12 months. Data were organized and analyzed through statical package for social sciences (SPSS 17) and expressed in the form of tables and graphs. Age will be determined by mean, causes complications will be computed as percentages.

RESULTS

The patients with age ranging from 20-40 years (mean age 23.15) (Table No. 2) had under gone trans abdominal repair of their vesicovaginal fistula. Out of Thirty (30) patients, (18) patients have multiple fistulae while (12) had single fistulae (Table No. 1).The most common cause was total abdominal hysterectomy in 21 (70%) patients while obstructed labor in 07(23.33%) patients, and 2(6.67%) patients had caesarean section (Graph 1). Out of 30 patients, 26 (86.67%) patients were treated successfully while 04 (13.33%) patients developed recurrence of fistula on 7th to 10th post operative day (Table 3). Immediate post operative complications were fever in 3 (10%) patients, ileus in three (10%) patients for 24 to 48 hours and wound infection in two (6.69%) patients which settled on its own (Table 4). Four (04) (13.33%) patients developed clot retention which were cleared with active gentile flushing, later on these four patients (13.33%) developed recurrence of fistula. All the successfully treated patients were

GRAPH SHOWING CAUSES



Graph-1

NUMBER OF FISTULA

Table-1

Number of Fistula	Number of Patients
Single	12
Multiple	18

OUTCOME OF REPAIR

Table-3

Result	Number of Patients	Percentage
Successful	26	86.67%
Failure	04	13.33%

AGE DISTRIBUTION

Table-2

Age Group	Number of Cases	Percentage
< 20	01	3.33%
21—30	11	36.66%
31—40	18	60.00%

POST OPERATIVE COMPLICATIONS

Table- 4

Post operative Complications	Number of Patients	Percentage
Fever	03	10%
Ileus	03	10%
Wound Infection	02	6.67%
Clot Retention	04	13.33%
Recurrencce	04	13.33%

followed fortnight after discharge, and then 3 and 6 months. None of the discharged successful patients developed recurrence.

DISCUSSION

The obstetrical vesicovaginal fistula remains a major medical problem in many underdeveloped countries with low standard of antenatal and obstetrical care[8]. The post surgical fistula is usually the result of more direct and local trauma to healthy tissues. The obstetrics fistulae were the result of a "field injury" to a broad area that results in wider area of damaged; thus producing a larger size of fistula[9].

Two major issues are dominant in any discussion of vesicovaginal fistula, namely, the timing of repair and approach used[10]. Some gynecological surgeons and most of the urologists decide the method of treatment on after full Uro gynecological evaluation. The most surgical fistulae likely to require abdominal repair, while obstetrical fistulae are dealt satisfactorily by vaginal route[8, 11]. The Trans abdominal approach is appropriate for larger fistula, relapsing fistula and fistula located higher in bladder[12]. The nature of surgical approach should be decided by the location of fistula, the functional importance of the area and the degree of surgical exposure during corrective procedure[13,14].

Various methods of fistula repair have been described, like latzko procedure, open transabdominal, laparoscopic, transurethral endoscopic and urinary diversion, depending on the characteristic of fistula[15]. The most frequently used abdominal approach now days is the O' Connor's bivalve technique[16]. Inspite of being better defined, and standardized management over the last decade, the surgical approach has always been an issue of contention for the repair of vesicovaginal fistula[17]. The approach used depends very much on the preference and experience of surgeon[18]. What ever the approach, the more important determinants of successful repair of vesicovaginal fistula are the principles of adequate exposure, tension free, non overlapping suture lines, good hemostasis, water tight closure and adequate postoperative bladder drainage[9,33] Abdominal approach however has its strengths in the optimal exposure of the fistula as well as intraoperative assessment of the complex fistula or cases with concomitant urethral obstruction[19]. The timing of repair of vesicovaginal fistula is controversial and has been debated extensively in the literature. Classically, surgeons waited 3-6 months after the injury to allow inflammation to decrease and to let surrounding tissues heal[20]. Early repair is not indicated in fistulas that result form obstetric trauma or from radiation therapy. Since these injuries often result in ischemic injury and severe inflammation and one must let these processes stabilize prior to attempting a repair[18]. This contentious aspect of fistula management for shortening of waiting period is of both social and psychological benefit to what are always very distressed patients. One must not trade these issues for compromise to surgical success[21]. Time allowed in different studies vary between 3 to 6 months[33]. In our study timing of repair in all patients was at least 3 months. Diaz Calleja etal[22], and Motiwala etal[23], favors timing of repair > 3 months and at 3 months respectively.

Vesicovaginal fistula in developed countries mostly occurs after pelvic surgery i.e. abdominal hysterectomies which occur in 0.05-0.5 / 100 cases[24,32] In our study the cause of vesicovaginal fistula was abdominal hysterectomy in 21 (70%) patients, obstructed labor in 07 (23.33%) and ceasarean section in 02 (6.67%) patients. Mumtaz in his study mentioned abdominal hysterectomy in 15(57.7%) and obstructed labor in 10 (38.3%) patients[21] while Stoothers L showed 70% due to abdominal hysterectomy for benign disease[17]. The causative factors are performance of hysterectomies in periphery by non qualified persons with own learned techniques, leading to increased number of post hysterectomy Vesicovaginal fistula patients. Vesicovaginal fistula in caesarean sections mostly due to late surgical intervention in delayed obstructed labor. Which has already produced ischemia of tissue and presents postoperatively. In our study all 30 patients were managed through abdominal approach. The success rate was 26 (86.67%). In different studies the success rate was reported to 85% to 100%. through per abdominal approach[11,21,25,26,32] In our study continuous bladder drainage was maintained by folley's catheter for 15 days and patients was discharged after 24-48 hours of removal of catheter. Some authors has recommended catheter drainage in surgical fistula repair for 12 days while for obstetric fistula 21 days[27,28]. The duration of bladder drainage reported in various studies is 06-42 days with mean duration of 15.8 days[29]. The follow up period in our study was 12 months. Different studies have variable period of follow-up from 07.8 to 5.5 months[21,29,30,31].

The surgeon who undertakes the closure of vesicovaginal fistula by abdominal route must be virtually certain of achieving a successful closure in one operation. This can be achieved only by combining careful selection of cases with a meticulous operative technique.

CONCLUSION:

The cause of vesicovaginal fistula remains largely due to Gynecological surgery. The type of approach depends upon the preference and experience of surgeon. The principles of fistula repair and case selection and time of repair (at least 3 months) remain important determinants of outcome. Supra Trigonal fistulae are best treated with per abdominal approach. It provides wide exposure of fistula site and better dissection of tissues, repair and helps to treat concomitant ureterovesical fistula. The small intervening tissue between two fistula should be excised to made a single fistula for good outcome.

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