TRANSPERITONEAL REPAIR OF VESICO VAGINAL FISTULA

M.SINGH, S.S.AMBASTA.

SUMMARY

Vesicovaginal fistulae were repaired transperitoneally in 14 cases with 100 % sucess at first attempt. Fistulae repaired were supratrigonal (8) or involving trigone (6) and were located high in the vagina. Careful selection of the patient and wide mobilization of the bladder and the vagina with multilayered closure had produced the most encouraging result. Interposition pedicle graft was not required in any of the cases. It is a reliable and reasonably simple procedure.

INTRODUCTION

Since the first successful closure of vesicovaginal fistula in 1854 by Sims, many vaginal and abdominal approaches have been described to solve a serious problem of the suffering humanity Most operations believed to be new can be found in the literature and most new procedures are merely a blend of the previously described technique (O'Conor and Sokol,1951). However, successful repair would much depend upon the selection of an ideal technique apart form major considerations like-site, size, multiplicity, state of the surrounding tissue and familiarity of the surgeon to a particular technique. Although gynecologists favour a transvaginal approach, transabdominal route enjoys distinct advantage in high, complex, recurrent fistulae or where there is vaginal scarring (O' Conor, 1975).

During the last three years fourteen patients who had high or complex vesicovaginal fistulae have been treated by transperitoneal approach. The technique used and the results achieved are the subject of this report.

MATERIAL AND METHOD

The present report included 14 patients of high and complex vesicovaginal fistulae,

Dept. of Urology, I.G.I.M.S., Patna 800 014. *Accepted for Publication : 28/1/91*

who have been managed by transperitoneal approach between July 1987 to September 1990. Low vesicovaginal fistulae in two cases who were managed transvaginally have been excluded. Age ranged from 18 to 40 years. The blanket symptom in all cases was continuous leakage of urine per vaginum without any interval of dryness following abdominal hysterectomy for any interval of dryness following abdominal hysterectomy for benign conditions in 7, prolonged labour and delivery of dead foetus in 4, and cesarean section in 3 cases. The time interval from the developement of fistula and presentation to our unit ranged from 2 to 6 months. Two of our patients had failed transvaginal repair of fistulae by other surgeons.

Diagnosis was confirmed by vaginal examination with the help of speculum especially in knee chest position. Preoperative workup included excretory urography and cystoscopic examination. The site, size, number and its relation to ureteral orifices were recorded. Biopsy from the fistulous tract was not taken since there was no suspicion of tuberculosis or malignancy in any of the cases.

Vaginal preparation was routinely done for 2 days preceding operation by vaginal douching with 10 % povidone iodine twice a day. Systemic antibiotic coverage and metronidazole - in view of heavy local contamination present from the mixed vaginal flora, were started preoperatively.

OPERATIVE TECHNIQUE : Under general or continuous epidural anaesthesia the patient is placed in supine position with thighs abducted and laterally rotated and the heels brought together. The operation table is tilted to achieve 10 to 15 degree trendelenburg position. The vagina is packed with gauze soaked in 10 % povidone iodine. The abdomen is opened through a lower midline incision skirting the umblicus. The dome of the bladder is freed from its attachments and perivesical area is exposed. Bowel is packed away from the field and a ring rectractor is placed. The bladder is opened in the midline over the peritoneal surface and extended a little anteriorly. The fistula and the ureteral orifices are inspected and the incision is continued down the posterior wall till it reaches the fistulous rim. The same incision is carried circumferentially around the fistula. The two edges of the bladder wall are retracted with the help of a series of stay sutures. The bladder is separated completely of the vagina. The vaginal defect is closed in two layers transversly using inverting interrupted sutures of 3-0 polyglycolic acid. The bladder is closed in two layers with the same sutures. In two of our cases we did ureteroneocystostomy using submucosal tunnel. We are routinely using suprapubic malecot and urethral foley cather for continuous bladder drainage. Foley catheter is fixed to the abdonimal wall and baloon is not inflated. Suction drain is put in the repaired area and light pack is left in the vagina for 24 hours. The urethral catheter is removed after 10 days and the malecot after 14 days.

RESULTS - Of the 14 patients fistula was located above the trigone in 8, involving the trigone in 4, and in 2 cases the ureteral orifice (left side in both the cases) was trapped in the edge of the fistula. There was single fistula in 12 cases while it was two and three in one case each. The size of the fistula varied from 0.5 cms. to 5.0 cms. A minimum period of three months was allowed to lapse between the injury and the repair. The vaginal and the vesical defects were closed without any difficulty or tension in the suture line in all the cases. Interposition of pedicle graft was not found necessary in any of these cases. There was no significant complication in any of these cases either in intraoperative or postoperative period. Severe bladder spasm was observed in two cases but this did not respond to removal of urethral catheters. We achieved closure of fistula successfully in all 14 cases. Stress urinary incontinence of grade I was noted during the followup in 4 patients; while two patients had distressing urinary frequency and urgency which responded to antibacterial and anticholinergic drug (probanthine) therapy.

DISCUSSION

In India obstetric trauma is responsible for over 90% of vesicovaginal fistula or its variant (Devi,1965; Rao,1975). Contrary to this most vesicovaginal fistulae result from difficult hysterectomy or postirradiational injury in the western world (Moir, 1975). Anticipated success rate of a fistula repair decreases with each succeding surgical failure, as repeated operations produced more scarring and further impairs blood supply of the tissue (Lawson, 1978). Thus, it is imperative that the first attempt be made under optimal condition. Successful repair of the vesicovaginal fistula is much dependent upon selection of a procedure suitable for that particular clinical situation and familiarity of a surgeon to a particular technique.

Most of the fistulae are juxtaurethral (Lawson, 1978) and the initial repair is performed by the gynaeclogic surgeon with the vaginal approach. When fistula is high and critically close to the ureteral orifices, the choice is abdominal approach. ConTroversy over the best approach for a big fistula high above in the vagina still exists. It is often largely a matter of individual surgeon's training and preference (Turner-Warwick, 1986).

Transperitoneal method involves splitting of bladder in the sagital plane into the fistula. This method originally invented by Trendelenburg and developed by Swiftjolly is preferred by most urologists (Lawson,1978). Since then several successful techniques have been reported for transabdominal repair (O'Conor, 1980; Gonzalez,1976).

This approach also offers opportunity to interpose omentum (Turner_Warwick, 1976; Kiricuta, 1972), peritoneum (Eisen, 1974) or muscle graft between the bladder and the vagina. Omental interposition is particularly helpful for closure of larger defect, poor quality tissue following irradiation therapy and in cases where it is difficult to obtain an adequate dissection of the bladder and vagina (Turner-Warwick, 1986). The first attempt closure of vesicovaginal fistulae following transabdominal technique without interposition graft has been reported in 75 to 100 percent of cases (Turner-Warwick, 1986; O'Conor, 1980). Our present series, although small is comparable to western reports. However, the etiological factors were different in western developed countries.

It is impossible to generalize usefully the time of fistula repair. This is dictated by the state of local tissue and the proposed procedure. Some fistulae close completely during the first six weeks (Graziotti, 1978) and all will heal to some extent (Lawson, 1978). If repair is entirely dependent upon a layered closure, the waiting period is important and it varies from 3 months in simple traumatic and operative injuries to 6 to 12 months in cases of radiational fistula. When success of prodedure is dependent upon interposition graft the time of operation is relatively less critical after acute inflammatory event has resolved (Turner-Warwick, 1986). The key to success of the operative prcedure are: careful identification of the bladder,the fistula, the vaginal wall; adequate dissection as far as possible to free the posterior bladder wall from vagina allowing closure of vagina and bladder in separate planes; and insuring continuous bladder drainage in the postoperative period. Majority of iatrogenic fistulae may be closed without interposition pedicle, peritoneal or omental graft.

REFERENCES

1. *Devi,N.S.: J.Obstet Gynec India, 15:632,1965.*
2. *Eisen,M.,Jurkovic,K.,Altwein, J.E., Schreiter, F. and Hohen-fellner, R: J.Urol.112:195, 1974.*
3. *Gonzalez,R., and Fraley,E.E.: J. Urol 115:660, 1976.*
4. *Graziotti P., Lembo, A. and Artibani, W: J. Urol, 120: 372, 1978.*
5. *Kiricuta, I., and Goldstien: J.Urol 108:724,1972.*
6. *Lawson J: Clinics in obstet and Gynec 5, Nol: 209,1978.*
7. *Moir, J.C.: J. Obstet Gynec Brit, 80: 598,1975.*
8. *O Conor, V.J. Jr.:J.F Glenn and W.H.Boyce. Hagerstown: Harper*

& Row, Publishers,p. 767,1975.

9. *O'Conor V.J., Jr: J.Urol 123: 367,1980.*
10. *O'Conor, V.J. and Sokol, J.K.: J.Urol, 66: 579,1951.*
11. *Rao, K.B.. J.Obstet Gynec India,25:58,1975.*
12. *Turner Warwick,R,: J.Urol 116: 341,1976.*
13. *Turner-Warwick, R.: in Campbell's Urology 5th ed., Edited by P.C.Walsh, R F.Gittes, A.D.Perlmutter and T.A.Stamey, W.B.Saunders. Philadelphia. P. 2718,1986.*