

Urinary Fistulae

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Summary:

Fourteen cases of urinary fistulae were followed prospectively. Ten cases were due to obstetric trauma, while 4 followed abdominal hysterectomy, for gynaecological conditions.

Successful repair was achieved in all cases but one. The possible reasons for failure in this case have been discussed. The various techniques employed for repair have been mentioned.

Stress has been laid on detailed pre-operative examination. Importance of patient rehabilitation has also been emphasized.

Introduction:

In developing countries, including India, the main cause of urinary fistulae remains pressure necrosis following obstructed labour.

Cure rates of upto 90% at primary closure have been reported by Moir (1973) in a series of 431 cases. Comparison between the results of different series is difficult, since success varies with the etiology, general condition of the patient, the number of previous attempts at repair and the experience and expertise of the surgeon.

Material And Methods:

During the 18 months period from January 1996 through June 1997, 14 cases of urinary fistulae admitted in one gynaecological unit of Patna Medical College Hospital, Patna, were prospectively followed. There were 4 cases following abdominal hysterectomy and 10 were

due to obstetric causes.

Examination under anaesthesia, the three swab test and cystoscopy were done to confirm the diagnosis, and to plan the repair. Urine culture and sensitivity were also done pre-operatively. All cases were taken up 10 to 12 weeks after the original trauma.

Bladder was sutured with 3-0 vicryl in two layers. Post-operatively, bladder was drained through suprapubic and urethral catheters. The urethral catheter was removed on the 7th post operative day, while the suprapubic catheter on the 14th postoperative day. Fluid balance was meticulously maintained postoperatively.

Discussion:

The first attempt is usually the best and this adage holds true for repair of urinary fistulae. The prospects for a successful repair decline with each operation, due to

Sl. No.	Age (Yrs)	Site of fistula	Prev history	Start of symptoms	Operation done	Outcome
1	30	Midvaginal (Small)	Vaginal del. following prolonged labour	10th day post partum	Flap-splitting method (Vaginal route)	Cured
2.	35	Juxtacervical (large, bladder mucosa exposed)	Difficult forceps extraction	7th day post-partum	Layered vaginal closure	Cured
3.	22	Bladderneck, proximal urethra	Forceps extraction	5th day post-partum	Reconstruction using Martius fat pad flap	Failed
4.	28	upper anterior vaginal wall (small)	Caesarean Hysterectomy for Rupture uterus	7th post-operative day	Flap splitting method (Vaginal route)	Cured
5.	36	Supratrigonal (close to left ureteric orifice)	Abdominal Hysterectomy	8th post-operative day	Ureter reimplanted by submucous tunnel; Bladder elevation by psoas hitch	Cured
6.	24	Midvaginal (small)	LSCS for obstructed labour	7th day post-operatively	Flap splitting method (Vaginal route)	Cured
7.	40	Near vault in anterior vaginal wall	Abdominal hysterectomy	10th post-operative day	Transperitoneal transcervical repair	Cured
8.	30	Midvaginal (large)	Craniotomy for obstructed labour	5th post-operative day	Flap splitting method (Vaginal route)	Cured
9.	50	Ureterovaginal (high in the vault)	Abdominal hysterectomy (3 failed attempts by vaginal route & 1 failed attempt by abdominal route)	11th post-operative day	Remplantation of ureter, using submucous tunnel	Cured
10.	35	Anterior vaginal wall (highup)	Caesarean hysterectomy for rupture uterus	7th post-operative day	Layered vaginal closure	Cured
11.	27	Near vaginal vault	Repair of rupture uterus	6th post-operative day	Transperitoneal transvesical layered closure	Cured
12.	20	Mid vaginal (small)	Difficult vaginal delivery	8th day post-partum	Flap splitting method (vaginal closure)	Cured
13.	33	Small juxta cervical (Cx torn)	Home delivery after prolonged labour	7th day post-operative	Layered vaginal closure	Cured
14.	41	At vaginal vault	Abdominal hysterectomy	14th day post-operative	Transperitoneal transvesical (bladder bisected)	Cured

scar formation and loss of healthy tissue.

Our encouraging results could be attributed to proper selection of operation for each patient, adequate mobilization of tissue planes, achievement of approximation without tension, maintenance of haemostasis, continuous bladder drainage and control of infection.

Low lesions were closed by the vaginal route using the flapsplitting method (Lawson, 1972). For high lesions, the transperitoneal, vesical bivalve approach of Javadpour et al (1973) was employed. During ureteric implantation, the submucous tunnel method to prevent reflux, was adopted, alongwith the psoas hitch, which prevented tension at the anastomotic site. The bladder was mobilized freely and fixed to the fascial sheath of the

psoas muscle.

Patients with abdominal pain, distension, paralytic ileus haematuria and severe irritability of the bladder after hysterectomy should be suspected of having urinary tract injury and require investigation early for the same, as suggested by Kursh et al (1988), to avoid development of urinary fistulae.

Early closure following a 10 day course of steroids has been advocated by Collins et al (1971), while Lee et al (1988) recommend waiting for 2 to 3 months before attempting repair.

In the one failure among our patients, the fistula had developed after a difficult forceps extraction following obstructed labour, and the patient had been

referred to us after 4 failed attempts. We found that the bladder neck was involved along with loss of proximal urethra. Though the Martius fat flap technique was employed, the patient continued to dribble and was ultimately lost to follow-up. Perhaps the omental pedicle graft technique of Turner-Warwick (1976) would have given a gratifying result.

Suggestions:

1. A clear explanation should be given to the patient that the waiting period is an essential part of treatment.
2. Easier repairs should be encouraged at the first or second referral units. Only complex cases be referred to the teaching hospitals.
3. Urinary fistula repair should be an integral part of the residents training programme.
4. There should not be hesitation in asking for skilled assistance of a urologist in difficult repair procedure.
5. Social rehabilitation of the patient is as important as fistula therapy.

At the first attempt layered closure was done vaginally at a peripheral center, only 10 days after dribbling started. Two further attempts were made at closure, using the vaginal route, at the same center. The second time the stitches broke down within a week due to infection. By the third attempt, it appears that loss of

tissue was considerable, causing tension at the suture line. The fourth attempt was made using the transvesical approach, at a private surgical center. After dissection of the vagina from the back of the bladder, layered closure of the fistula was performed. Due to restricted exposure it appears, no attempt was made to separate the vagina from the urethra, and this contributed to failure, along with fibrosis and loss of tissue, compromising the patient's chance for cure.

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