

LARGE VESICO-VAGINAL FISTULA TREATED BY RECTAL BLADDER

(Report of 4 Cases)

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Vesicovaginal and rectovaginal fistulae cause considerable embarrassment to the patient. They are common in underdeveloped countries where the patient does not get proper antenatal and intranatal care owing to lack of medical facilities. According to Barroux vesicovaginal fistula is very difficult to treat if it is associated with rectal fistula. In his series of 250 vesicovaginal fistulae, there were 30 cases of combined vesicovaginal and rectovaginal fistulae. This gives an incidence of 12 per cent.

The vesicovaginal fistula is usually caused by prolonged pressure of foetal head on the soft parts. Vagina under goes extensive scarring and in a few cases local repair becomes almost impossible. Management of these cases is a challenge to the surgeon as well as to the nursing staff. The object of this paper is to report method of urinary diversion by formation of a rectal bladder in large vesicovaginal fistula.

CASE 1

Mrs. A, aged 32 years, was admitted on 16-11-1967 at 12-40 P.M. for incontinence

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of urine and faeces following delivery 24 days back at a village dispensary.

Obstetrical History

Patient had seven full term normal deliveries, out of which six babies died in infancy due to medical diseases. She had an accident three years back and injured her left hip and pelvis for which she was confined to bed. One year back she delivered at home the 8th full term stillborn male child. The labour was difficult and prolonged. The 9th was full term stillborn delivery at village dispensary 24 days back, after a prolonged and difficult labour. Baby was very large and macerated. She had retained placenta which was removed with some instruments, following which she developed incontinence of urine and faeces.

General Examination

Patient was undernourished, emaciated, moderately anaemic at the time of admission. Pulse 90/mm, B.P. 130/90 mm of Hg. Other systems were normal.

Pelvic Examination

Excoriation of external genitalia was present. The whole of anterior vaginal wall had sloughed through which bladder mucosa was protruding. Cervix was pointing downwards, uterus was anteverted anteflexed, 8 weeks' size, soft and mobile; fornices were free. There was rectovaginal fistula in posterior vaginal wall high up about 1½" in size edges of which were fibrosed and faecal matter was coming through it.

Investigations: Hb. 7.6 gms.%, T.R.B.C.

2.3 million/cu.mm. T.L.C. 6,000, E.S.R. 10 mm 1st hour. Bleeding time 20 Sec., clotting time 2 min.

Blood Urea 20 mg. Blood sodium 137 mEq.: Blood potassium 4.8 mEq.: Chlorides 100 mEq.

Pre-Operative Management

The patient was given antianemic treatment, bowel washes three times a day and Seitz bath twice a day.

Operation

On 12-12-1967 transverse colostomy was done under general anesthesia. On 2-2-1968 (6 weeks later) rectovaginal fistula was repaired by abdominal route successfully and transvesical vesicovaginal fistula repair tried but failed. Ureteric catheters could not be passed because most of the bladder was absent. Rectovaginal fistula repair was successful and from 13-2-1968 bowel washes were given. On 22-3-1968 rectal bladder was made by the following technique. Abdomen was opened by supraumbilical right paramedian incision about 2" above umbilicus. Pelvis was explored. Part of transverse colon was found adherent to the anterior wall of the uterus. Adhesions were separated by blunt dissection, Right ureter was mobilised upto the pelvis, clamped, cut and the distal end was ligated by nonabsorbable material. Ureteric catheter was passed through the proximal end. Same procedure was adopted for the left ureter. Rectum was mobilised from the anterior surface of the sacrum about an inch beyond coccyx. Rectosigmoid junction was clamped, crushed and cut. Proximal cut end of rectosigmoid junction was ligated loosely by cotton thread. Rectum was closed by a purse string suture with 20 silk and peritonised. Flatus tube was passed through the anal opening and traced into the rectum. Small nick was made on the opening of the tube in the rectum and ureteric catheters were passed into the rectal tube. Ureteric implantation was done by Nesbit technique.

A semicircular incision was made after putting patient in lithotomy position at mucocutaneous junction of the posterior margin of anal opening. A space was made through the internal sphincter of anal canal using blunt digital dissection and a

long straight artery forceps was passed upwards to catch the ligated end of the rectosigmoid junction and brought down. The sigmoid colon wall was stitched to the skin of the incised mucocutaneous anal opening. Foleys catheter was put in artificial rectal bladder and connected to a drainage tube. Ureteric catheters were also connected to drainage tube separately.

Appendicectomy was also performed. Abdominal wound closed after proper haemostasis and putting drainage tube on to left side which was also connected to a bottle. Patient was given two units of group 'O' blood on the 1st day and the 3rd Unit of blood on the second postoperative day. Fluid intake and output chart maintained and intravenous fluids and broad spectrum antibiotics were given. On every third day for 1 month, serum electrolytes value were watched. Post operative period was uneventful. At the end of 1 month serum sodium was 136 mEq., serum chloride 102 mEq., Blood urea was 20 mg., Colostomy was closed on 24-5-1968 and the patient was discharged on 15-6-1968.

CASE 2

Mrs. B, aged 50 years was admitted on 28-9-69 at 4.5 P.M. with the complaints of incontinence of urine and faeces for the last 5 years following the last delivery.

Obstetric History

Three full term normal deliveries, 1st two died at the age of 2 years due to diarrhoea. Third full term difficult delivery, male child alive. It was a home delivery and she remained in labour for four days. Last delivery took place 5 years back.

General Examination: Elderly woman of average built and mildly anaemic.

Per Vaginal Examination

Excoriation of perineum was present; whole of anterior vaginal wall was absent. Bladder mucosa was seen protruding through it. In posterior vaginal wall there was a rectovaginal fistula about 2" x 2" at the middle third of vagina, induration was present around it.

Investigations

Hb. 10 gm%. Total leucocyte count, 7800/cu.mm.

Blood urea 25 mg. Blood potassium 3 mEq., blood sodium 138 mEq., blood Chlorides 103 mEq.

Pre-operative treatment—Same as in previous case.

Transverse colostomy was done, on 10-10-69. Rectovaginal fistula and vesicovaginal fistula were repaired on 7-11-69. Rectovaginal fistula healed but vesicovaginal fistula persisted. Rectal bladder was formed on 2-1-70 by similar technique as described previously. Three units of blood given during the operation. After the operation B.P. fell to 40 mm. Pulse was 130/ml. Mephentine 60 mg. was put in drip and Wymisone 2 c.c. i.v.: was given at 6 hourly intervals.

Postoperatively patient remained well till 4-1-70; then again B.P. fell on 4-1-70 to 80 mm. of Hg. No urine drained from any of the catheters on 4-1-70. Unimannitol 500 c.c. given. Inj. Vasoxin alternate with Wymicone 2 hourly given. Noradrenaline 16 mg. in 500 c.c. G.D.W. drip was started.

Biochemical studies showed on 4-1-70: Blood urea 120 mg. Blood potassium 3.5 mEq; Blood Chloride 103 mEq., Blood sodium 136 mEq.

Patient expired on 5-1-70 at 4.00 P.M.

CASE 3

Mrs. C, aged 20 years was admitted on 23-6-70 at 10 A.M. with the complaint of incontinence of urine after delivery 6 months back.

Obstetrical History

One full term stillborn delivery after craniotomy 6 months back. Patient was in labour for 6 days and she was handled by 'dais' who applied hot oil and hot metal rods in the vagina. Patient developed incontinence of urine after 7 days of craniotomy.

General Examination: Patient was emaciated, poorly nourished, moderately anaemic, pulse 80/min. B.P. 120/80 mm Hg.

Pervaginal Examination: Excoriation of perineum was present, whole of the anterior vaginal wall was destroyed, including the urethral opening and bladder mucosa was protruding through it. Cervix could not be visualised. Uterus was anteverted anteflexed, parous, mobility restricted, fornices free.

Investigations: Hb. 9 gm%, Blood urea 20 mg. Blood sodium 138 mEq., blood chloride 108 mEq. Two Units of blood of group 'B' were given during the operation, broad spectrum antibiotics and intravenous fluids given. Rectal bladder with transplantation of ureters, appendicectomy and tubal ligation was done on 17-7-70. Intake and output chart maintained. Post-operative period was uneventful till 20th day when patient developed high fever with rigor. She had also constipation. Bowel wash was given and urine sent for culture and sensitivity. On Culture B. Coli identified which were sensitive to chloromycetin and furadantin. Full course of chloromycetin given. Peripheral blood film repeated on the 3rd day. It was normal. Patient was discharged on 30-8-70. Before discharge from the hospital her serum chemistry study showed, serum sodium 139 mEq., serum potassium 4.5 mEq., serum chloride 104 mEq., blood urea 20 mg. Patient was fully continent during day and night.

CASE 4

Mrs. D, admitted on 12-1-71 at 12.15 P.M. with the complaint of continuous dribbling of urine after a last stillborn difficult home delivery at her village by a local 'dai', 4 months back.

Obstetrical History

1st full term stillborn prolonged difficult delivery at home 4 months back. She had labour pains for four days and leaking for four days.

General Examination: Fairly built, poorly nourished, moderately anaemic. Pulse 90/min.: B.P. 110/70. Other systems—normal.

Pervaginal Examination: There was excoriation of perineum, whole of anterior vaginal wall was destroyed, bladder mucosa was protruding through it. There was a thick fibrous band at the junction of upper 2/3rd and lower 1/3rd of vagina. Cervix could not be felt; body of uterus could not be defined.

Investigations: Hb. 7 gm%, T.L.C. 6,000/cu.mm. Blood urea 28 mg. bleeding time 3mt., clotting time 2 mt. 5 Sec. Serum sodium 138 mEq., serum chloride 105 mEq., serum potassium 4.8 mEq. Blood group 'O'.

Patient was given antianaemic treatment. Rectal bladder made in the usual way on 26-2-71. Two units of blood were given on 1st day and routine postoperative treatment carried out. On 1-3-71 at 2.00 P.M. patient became suddenly violent, talked incoherently. Her B.P. fell to 60 mm. She was given Inj. Morphia, 1/4 gr. intramuscularly, Inj. paraldehyde 8 c.c. intramuscularly and 60 mg. Mephentine drip started. Wymisone 1 c.c. I.V. 2 hourly given. Urinary output was only 100 c.c. on 1-3-71. 500 c.c., Unimanitol was given. Gradually the concentration of mephentine drip was decreased and the interval of Wymisone injection increased and she was well on 5-3-71. Patient had burst abdomen on 6-3-71, which was repaired, stitches removed on 14-3-71, still a superficial raw area remained which healed by Furacin dressing. Patient got fever with severe rigor on 25-3-71. Urine for culture sent. On culture B. Coli grown sensitive to furadantin. Furadantin tab. Q.I.D. given till 26-4-71. Patient had full control of micturition during day but she was occasionally incontinent during the night due to laxity of anal sphincter. She was taught sphincter exercises.

Discussion

Research work on urinary diversion are far from perfection. In the last half, century, literature in surgery and urology were enriched by various operative methods in connection with this problem. The first attempt at urinary diversion into isolated piece of ileum was done by Verhoogen in 1909 but was discarded. Ureterocolic anastomosis is also not preferred as it is associated with ascending infection, pyelonephritis and electrolyte imbalance, hyperchloraemia and acidosis. Brickers (1950) cutaneous ureteral ilostomy is associated with reduced incidence of ascending infection and electrolyte imbalance, but unfortunately continuous leakage of urine needs a permanent collecting apparatus which creates social and psychic problems. There is

increasing interest in separating urinary and faecal stream when urinary diversion is needed. Concept of transplantation of ureters into the rectum was suggested in the 4th decade of 19th Century by Muller, Enderlen and Trendelenburg. This operation was actually performed by Simon in (1852) in which he attempted to divert the urine from ureters into the rectum by establishing suture fistulas. His attempts were unsuccessful. Maydl in 1894 again attempted by dissecting out the vesical trigone with the ureteral orifices intact, and then turning the trigone over he implanted it into anterior rectal wall. The technique of rectal bladder had been suggested by Boyce and Vest (1952) in their paper on treatment of bladder extrophy. Kinman and Sauer (1953) also reported favourable application of similar technique in cancer bladder with permanent separation of the urinary and the faecal stream with good restoration of function. Lowsley and Johnson (1955) used isolated rectum as a new bladder and created a new rectum by mobilising sigmoid colon to sufficient length to permit its being pulled through the perineum immediately anterior to the anus under external sphincter ani muscle. To avoid inconvenience of colonic stoma, Duhamel-Heitz Hovaleque (1964) performed operation of rectal bladder in two cases, both patients were continent during the day but passed urine involuntarily at night. Humphires (1964) treated two cases of vesicovaginal fistula associated with rectovaginal fistula by performing the operation of ileal-bladder in the first case and of rectal bladder in the second case. He observed overall satisfactory results in both the patients.

Rectal bladder was tried as a method of urinary diversion in four of our cases.

Two patients had also associated rectovaginal fistula. Three patients recovered after surgery and were discharged from the hospital. One patient died on the 3rd day as a result of severe endotoxic shock. Out of three patients who were discharged two were fully continent and the third was only incontinent occasionally at night. Faecal and urinary streams were permanently separated which reduced the incidence of pyelonephritis, catheters, urinal bags and other attachments were not needed. Results were sufficiently encouraging to justify further trial of this method as electrolyte imbalance was not much.

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