VESICO-VAGINAL FISTULA†

by

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Vesico-vaginal fistula is one of the most depressing infirmities to which a woman can be exposed. The constant dribbling of urine with its foul odour renders the patient a complete social outcast. The main cause, obstructed and poorly conducted labour, has been eradicated in Western countries. In underdeveloped countries where the fertility rate is high, nutrition low and antenatal and obstretric care inadequate and mainly in the hands of untrained midwives, obstetric causes still play a major role.

Mahfouz Bey (1957), who dissected parturients dying undelivered following rupture of uterus, showed that the trigone of the bladder, ureteral openings and urethra are within the compression area. He has shown that if impaction of the head occurs at the brim before full dilatation of the cervix, the continued pressure on the undilated and uneffaced cervix as well as on the vault of the vagina and bladder will cause necrosis and ultimately sloughing of the tissues and formation of a fistula that may implicate the cervix, bladder and ureter. When trauma has not been extensive, the bladder lesion may heal spontaneously with complete cure. If the impaction occurs in the cavity or outlet the urethra and the base of the bladder as well as trigone are within the compression area and in these cases vesico-vaginal and urethro-vaginal fistulae would result.

This is an analysis of 78 cases of urinary fistulae admitted under our care from January 1960 to the end of June 1967. The total number of gynaecological admissions in the Irwin Hospital, from 1st July 1962 to 30th June 1967, were 7280 and the total number of urinary fistulae admitted during the above period were 91, giving an incidence of 1.12%. This is higher than the incidence reported by Yenen (1965) who gave an incidence of 0.72%.

TABLE I
Etiology

Obstetrical causes	—	63 cases	80.7%
Post-abortion	—	4 cases	
Postoperative	—	7 cases	
Carcinoma cervix	—	2 cases	
No cause elicited	—	2 cases	

Most of the fistulae occur fr
faulty, inadequate and poor ob

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trics and cephalo-pelvic disproportion. Women come to the hospital with the history of having been in labour for days and dribbling of urine commencing on the 3rd or 4th day of delivery. The ischaemic necrosis and separation of the slough result in a fistula formation. In some cases the destruction is so vast that the whole of the cervix and the posterior bladder wall are destroyed leaving a large fistula through which the bladder mucosa prolapses like a large red polyp. In the present series faulty obstetrics accounted for 80.7% of the fistulae. This is similar to that reported by Yenen (1965) as 83.8%. In Aziz's (1965) series of 100 cases the cause of the fistula was prolonged labour. In Naidu's (1962) 208 cases, 201 were due to obstetric trauma. In our series in 4 cases the fistula occurred after induced abortion and in one of them there was a huge calculus, in the centre of which was a stick used for the induction of abortion. In 7 cases the fistula occured postoperatively, 5 after abdominal hysterectomy, one after hysterocolpectomy for basal cell carcinoma of the vagina and one after vaginal hysterectomy. One patient was a nullipara of 60 years with two vesico-vaginal fistulae situated high up and no proper history could be obtained regarding the cause or duration of the fistula.

Most of the patients i.e. 49 or 62.8%, were between 20-40 years of age; 66% of Aziz's (1965) patients were between 20-30 years of age. In those above 40 years, three patients gave history of malignancy and 7 had fistulae after pelvic surgery. The young age of the patient is favourable because of the better condition of the tissues and the blood supply.

Forty-two or about 53.8% of the women were primipara. Only one was a nulliparous woman in whom no cause could be elicited; 33 patients or 42.3% were multiparae. The high incidence of multiparity indicates that the fistula occurred after abnormal presentation during delivery and also associated osteomalacia causing obstructed labuor. Fifty-eight per cent of Aziz's (1965) patients were primiparae.

Most of the women presented within the first 6 months of the occurrence of the fistula. In one patient the fistula had been present for 18 years. Some of the women, i.e. 39.7%, even presented within the first 3 months but no surgery was attempted until after 3 months of the last confinement.

Table II shows the classification of the fistulae as regards the anatomical relation and the type of the fistula.

TABLE II

Type of fistula	No. of patients
Uretero-vaginal	2
Juxta-urethral	20-26.4%
Mid-vaginal	11-14.5%
Juxta-cervical	20-26.4%
Extensive destruction and scarring	25-32.7%
Associated recto-vaginal fistula	3
Associated intestino-vaginal fistula	1

There were two uretero-vaginal and 76 vesico-vaginal fistulae. The juxta-cervical and mid-vaginal show a better prognosis than the juxta-urethral type of fistula. Twenty-

five patients, i.e. 32.7%, had extensive destruction with marked scarring and fibrosis and three of them had associated recto-vaginal fistula. One patient had an intestino-vaginal fistula along with vesico-vaginal fistula. She had been operated on at some hospital for obstructed labour where caesarean hysterectomy was done. She started passing faeces and urine per vaginam about 10 days after the operation. At the time of laparotomy it was found that a loop of small gut was adherent to the vault. She had a repair of the intestino-vaginal fistula and later transplantation of ureters. In many cases the fistula extended from one pubic arch to the other and from the symphysis pubis to the cervix. In 10 cases with secondary amenorrhoea the uterus had been replaced by a small fibrotic nodule; 48.8% of Yenen's (1965) patients had secondary amenorrhoea. In the majority of these cases a flap-splitting operation was out of the question. Four patients had associated osteomalacia precluding any vaginal repair.

Treatment

Flap-splitting operation was attempted in 43 cases. Twenty-nine cases were cured at the first attempt, while another three required two and three operations before complete cure, i.e. 74.4% were cured with flap-splitting operation. Five improved considerably with leak after 150-200 cc. collected in the bladder and remained dry most of the night. They had already been operated on 3-4 times and did not consent to any further operation. In 6 cases there was no improvement at all and subsequently had transplantation of ureters into the sigmoid. In 10 patients the fistula was so large and destruction so extensive that uretero-sigmoidostomy was adopted as a primary procedure. In 2 of these there was associated recto-vaginal fistula and one had intestino-vaginal fistula, which were first repaired. In 4 patients, with bony deformity due to osteomalacia and marked scarring, transplantation of ureters was carried out without any vaginal procedure. One case was that of postoperative ureteric fistula in which the ureter could not be implanted into the bladder and had to be transplanted into the sigmoid. Colpocleisis was attempted in two patients: In one case the fistula was closed at 3rd attempt. In the second patient the operation was not successful and transplantation of ureters into the sigmoid was carried out. Transplantation was primarily done in 10 cases out of 100 in Aziz's (1965)

TABLE III
Type of Operation

Type of Operation	Total	Cured	Improved	Failed
Flap-splitting	43	32-74.4%	5	6
Colpocleisis	2	1	—	—
Transplantation of ureters	22	22	—	—
Abdominal repair	2	2	—	—
Uretero-ilio-sigmoidostomy	1	1	—	—
No surgery done	5	—	—	—

series. In the present series the transplantation rate is 28.2%. Thirty-one out of 179 cases in Yenen series (1965) had primary transplantation. Transabdominal intraperitoneal repair was attempted in two high postoperative vesical fistulae, both healed at the first atempt. Extraperitoneal repair was not attempted in the present series. Transvesical approach was attempted in two high fistulae without success.

Follow up—Only six reported for postoperative follow up after three to six months, two of them showed mild hydronephrosis and one developed definite pyelonephritic changes. One patient was readmitted five years after uretero-ilio-sigmoidostomy with uraemic attacks but discharged herself as she was not improving.

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References

1. Aziz, S. A.: J. Obst. & Gynec. Brit. Comm. **72**: 765, 1965.
2. Mahfouz, N.: J. Obst. & Gynec. Brit. Emp. **64**: 23, 1957.
3. Naidu, P. M.: J. Obst. & Gynec. Brit. Comm. **69**: 311, 1962.
4. Yenen, E.: J. Obst. & Gynec. **26**: 219, 1965.