PROLAPSE OF URETEROCELE THROUGH EXTERNAL URETHRAL MEATUS

(During Twin Pregnancy and Labour)

by

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Ericson (1954), Williams and Raper (1958), and Thompson and Kelalis (1964), have given a clinical review of ureterocele in their series of cases. Raper had then commented that any clinic dealing mainly with urological diseases would see about two patients with this condition each year. For any gynaecological clinic it would as well be a rarity to come across such a case. Macpherson (1942) described a case of an unmarried woman aged twenty-seven years where a bright red tumour (ureterocele) projected through and beyond the external urethral meatus on separating the labia. Emmett and Logan (1944) recorded a similar case during impending abortion. Appearance of a cystic swelling at the vulva in course of a premature delivery brought interest in the case and her management or follow-up prompted recording of this uncommon urological abnormality complicating pregnancy and labour. In the available literature a similar case report was not found.

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Case Report

Sm. D., age 26 years, Reg. No. 0/347, dated 9-1-1963, was referred to the Hospital for Women, Patna, from Sonepur Railway Hospital as a case of prolonged premature labour due to a vulval swelling. She was twentyeight weeks primigravida, who gave history of recurring dysuria caused by the prolapse of a cystic swelling through the urethra for the past four years and which she had kept hidden so long.

She was examined twentyfour hours after the onset of labour which had been ineffective. Signs of fatigue, such as rapid pulse rate 120 per minute, pallor, and coated tongue were evident on a short-statured illnourished woman who did not present any other positive finding except angular stomatitis. Her blood pressure was 120/90 mm. Hg.

On obstetrical examination, uterus was the size of thirty-six weeks' gestation due to excess of liquor amnii and twin pregnancy. Foetal heart sounds were inaudible. A 7 cms x 4 cms oval, dark, red, cystic tumour protruded outside the external urethral meatus. It was transluscent. On pelvic examination 'show' was present and cervix was soft, thin, and two fingers dilated. Presenting part of the first foetus was high. An elongated tense bag of fore waters bulged with uterine contractions. Premature twin delivery 'vertex—breech' was appropriately managed resulting in the birth of a first male live foetus weighing 1.5 kg. and a second female dead foetus weighing 1 kg after 36 hours of labour. The third stage of labour and puerperium were normal. First baby died after 8 hours. Lactation was suppressed with oestrogen.

From laboratory investigations the patient's health was assessed. The reports were none the worse for the discomfort, and deprivation which she had suffered on account of ureterocele, pregnancy, premature twin delivery, and her poor economic status. Routine blood examination showed —total R.B.C.—2.8 mill. per c mm; haemoglobin 8 gm per cent; total white blood corpuscles 9,100 per c mm.; and differential count of white blood cells — polymorphs 65%, lymphocytes 31% large mononuclear 1%, eosinophils 2%, and basophil 1%. Urine samples collected from bladder (right kidney) and that collected through the ureterocele (or left kidney) were found to be similar on examination: viz. both samples of urine were acidic; contained albumin in moderate degree, pus cells 10-16 per field. B. Coli isolated on culture. Blood urea was estimated to be 22 mgm. per 100 ml of blood.

The management of her puerperium was characterised by confirmation of the diagnosis of ureterocele and its surgical treatment. Chronologically events taking place were as follows:

9-1-1963. Emergency admission.

10-1-1963. Twin premature delivery: vertex — breech.

28-1-1963. Examination under anaesthesia.

13-2-1963. Kelly's cystoscopy.

22-2-1963. Cystoscopy at urological Clinic, P.M.C.H.

15-3-1963. Operation — Suprapubic extraperitoneal exposure and excision of ureterocele.

4-4-1963. Discharged from hospital.

10-10-1963. Follow-up admission after six months.

Pathology

With prolapsed ureterocele the patient had no dysuria except that the stream of urine was spread out over the tumour. As a result of external trauma during labour, strangulation as it passed through the urethra, and infection of the cystic ureterocele burst on 20-1-1963, the eleventh post-partum day. Now it looked like an inverted cup-shaped polyp hanging out through the urethra, and retracted inside the bladder within twentyfour hours. On account of lochia and mild infection cystoscopy was not done until 13-2-1963 when the unretorocele could be delivered out through Kelly's cystoscope. It was in continuity with the left ureter which had a pencil-size dilated lumen and thick wall. Left ureteric opening in the bladder could not be spotted. The right ureteric opening was normal; bladder mucosa was congested. Through a catheter draining the left kidney over 3,000 c.c. of urine was collected. On cystoscopy, the ureterocele reduced inside the bladder had the appearance like a degenerating papilloma.

Figure 1., shows the excised ureterocele. It was 7 cms x 5 cms., tubular or bell-shaped. Its proximal end was smooth and showed mucular layers of the ureter, and the distal end was concave with central opening— the site where the cyst had ruptured. The thickness of wall was 1 cm. Biopsies cut from the two ends, on histological examination, showed presence of transitional epithelium covering both inner and outer surfaces. There was heavy infiltration of submucosa by inflammatory cells (Figure 2). The muscular layer of the ureteric wall was identified in the wall of the ureterocele (Figure 3).

Secondary changes (such as hydroureter) in left ureter were not evident on urogram; whereas the shadows of right kidney and ureter were identified. Urinary bladder shadow presented filling defect (Figure 4).

Discussion

Diagnosis of ureterocele in this patient was made easy as the sloughing of a part of its wall outside the vulva allowed free flow of urine to the exterior, and introduction of catheter into the left ureter. Indigo-carmine injected intravenously coloured the urine draining through the fistula blue after 20 minutes when the injection had been repeated. It indicated left kidney damage. When there is reduplication of ureter, the ureterocele is connected to the non-functioning part of the kidney. Prolapse of ureterocele accentuated the

condition of hydronephrosis (3,000 ml urine was drained from the left side) which did not allow proper concentration of the dye during urography and so there was no shadow of left pelvis of kidney or ureter on the urogram (Fig. 4). Follow-up examination done after six and a half months found her to be pregnant again (twenty-two weeks): Fig. 5 shows the foetal shadow and urogram taken at that time. As before the left kidney and ureteric shadow were not seen in the picture. Right kidney and ureter were found to be normal. No reflux was observed during x-ray screening.

Ainsworth-Davis (1932) described ureterocele as a cystic swelling of the intramural part of a ureter due to prolapse of one or more layers of its wall projecting into the bladder. It is invariably associated with a pin-hole ureteric orifice. Its two types are: (1) Mucous type — in which the cyst wall is made of double fold of mucous membrane; the outer being vesical and inner ureteral in origin: (2) Muscular type — in this the inner and outer walls consist of mucous membrane as above but interposed between these is a varying amount of muscular tissue derived from the wall of the ureter. The words 'ectopic ureterocele' denotes the intravesical protrusion which is made by the dilated lower end of the ureter which opens in to the urethra. Here the swelling is on the trigone which may be confused with a cyst of the trigone or double bladder. In the case recorded here it is clear that the ureterocele was of muscular type.

The symptoms of ureterocele are renal colic, loin pain, fever with recurrent urinary infection, haematuria, and/or dysuria. In children it may produce bladder neck obstruction. When it is prolapsed, it will cause partial obstruction of urine. In the clinical appraisal of 176 cases seen at the Mayo Clinic, prior to 1963, by Thompson and Kelalis (1964), 116 were adult women, 31 adult males, and 29 children. The condition was commoner on the right side; and was bilateral among 15% of adults and 17% of children. Complications like pyelonephritis and/or calculi formation formely seen, may not be met these days.

Uncomplicated and asymptomatic cases of ureterocele will not require active treatment except occasional urological surveillance. The objective of surgical treatment in these patients will be to relieve the urinary obstruction in a suitable manner. With the advancement of urology this is accomplished entirely by transurethral route. The operations indicated may be dilatation of ureteral orifice, meatotomy, incision with diathermy electrode or excision avoiding total resection to prevent postoperative reflux. Where there is gross renal damage, nephro-ureterectomy or heminephrectomy will have to be carried out.

This patient had ureterocele for a number of years and its size had become large. It was not suitable for transurethral resection. Long hospital stay was unavoidable because of her low condition, associated obstetrical problems and a chronic resistant urinary tract infection. Open resection of ureterocele in her case permitted precise excision of all layers of ureter and its suturing to the

bladder wall in a manner to get a low ureteric nipple which would prevent reflux of urine. The operative result was found to be satisfactory when examined after six months in the pregnant state. Unfortunately she had become pregnant soon after discharge from hospital while she had not fully recovered. Probably she was also shy to report again for follow up examination in spite of repeated reminders. But she was kind enough to convey news of her safe confinement without any urinary complications in the early part of 1964. We sincerely hope that she is now a happy and healthy mother.

Summary

A case of unilateral ureterocele in a primigravida (twin) is described. Before pregnancy it used to get prolapsed outside the urethra infrequently on straining. Its increased size, due to pregnancy changes and increasing volume of pent-up urine, prevented spontaneous reduction as in the past. Necrosis of a part of the cyst wall drained out the collected urine, and it retracted inside bladder. The pathology and management of ureterocele is discussed in light of the available literature on the subject.

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Figs. on Art Paper V