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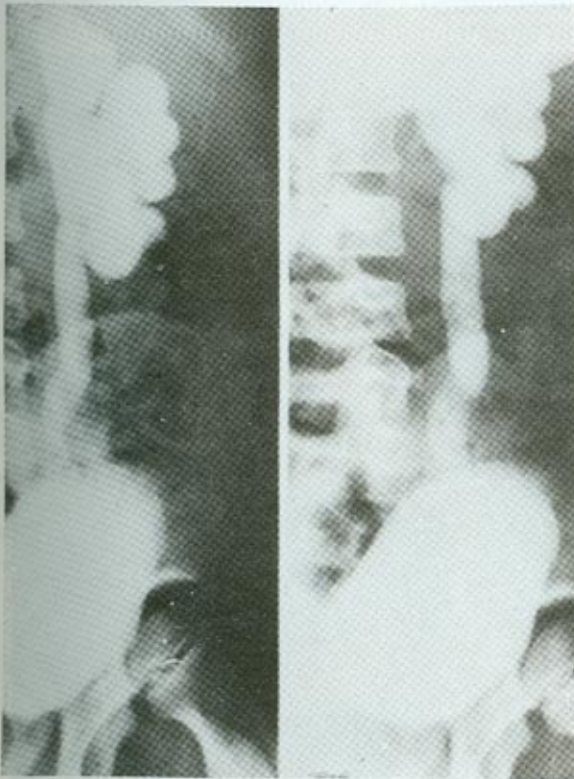


Fig. 1 a and b. Intravenous pyelogram

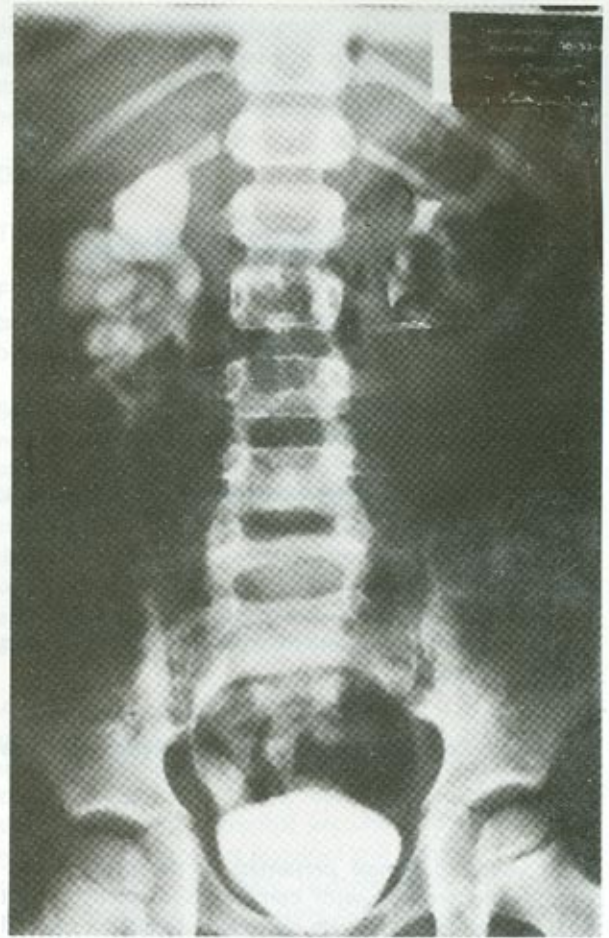


Fig. 2 Intravenous pyelogram  
Note dilated ureter in anatomical pelvis

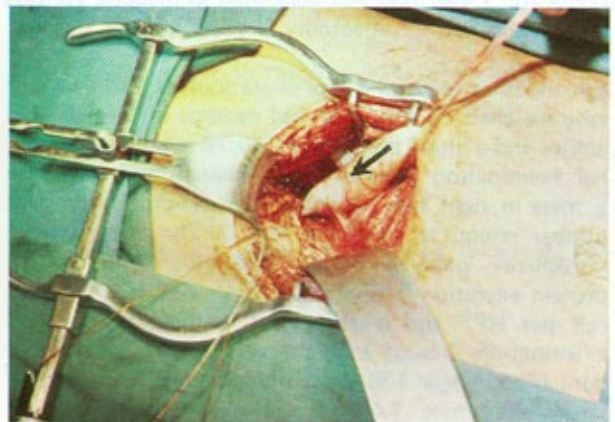


Fig. 3 Dilated lower ureteral segment seen obliquely across the upper right part of the wound (arrow marks lower end of ureter).

Histopathology of the resected ureteric segment revealed urothelial lining with marked muscular hypertrophy. Postoperatively, the patient did well and was discharged on prophylactic antibiotics. A followup ultrasound examination at five weeks revealed a moderate hydronephrosis with slight improvement over preoperative findings. The patient is now off all medications and symptom free for eight months following surgery.

#### DISCUSSION :

In children, urinary tract infection reaches a peak at approximately 3 years of age. Although it may be more common in the younger patient, in the non verbal child, the symptoms are often non specific and the diagnosis difficult. Beyond infancy, the incidence of urinary tract infection is much higher in females as compared to males<sup>4</sup>. Clinical experience supports the necessity for radiographic evaluation of the genitourinary tract following the first documented urinary tract infection in boys. It is essential to confirm the presence of anatomical or functional abnormalities of the genitourinary tract which may be amenable to surgical correction. The evaluation should include a voiding cystourethrogram to look for vesicoureteral reflux as well as to visualize the entire urethra. A post void film must demonstrate complete emptying of the bladder. Visualization of the proximal urinary tract must be obtained through an intravenous pyelogram.

The findings of a megaureter must lead to a systematic approach to establish reflux or ureterovesical junction obstruction as the primary cause<sup>5</sup>. In the absence of reflux, a narrow distal ureteral segment that does not dilate to permit easy passage of urine may represent a primary obstructive megaureter<sup>6</sup>. Other causes of distal ureteral obstruction, however, must be entertained and include congenital ureteral strictures. These are rare and more frequently found in the mid-ureter<sup>7</sup>. Ureteric valves have been reported in only a dozen patients in the pediatric age group<sup>8</sup> and are usually close to the ureteropelvic junction. The role of blood vessels (usually the umbilical branch of the hypogastric artery) in obstructing the distal ureter is questionable as this finding is usually associated with other pathological entities including vesicoureteral reflux.

Post-tubercular stenosis of the distal ureter has been reported but tuberculosis of the genital tract in either sex is rarely seen before puberty<sup>9</sup>.

We believe that the case presented in this paper represents the entity labelled the true primary obstructive

megaureter. The histological characteristics of this condition remain variable, and the descriptions have varied from a narrowed segment devoid of muscle to the actual presence of thickened muscles arranged in a circular pattern<sup>10,11</sup>. The histological appearance of the present case more closely resembles the second variety with hypertrophy of circular muscle fibres present in the region of the stenosis.

Radiological diagnosis of the true obstructive ureter with a distal narrow segment can be difficult. The narrowed segment is often obscured by the bladder in a routine intravenous pyelogram, and oblique and post voiding views may be necessary. Recently Wood et al<sup>12</sup> have reported the successful use of real time ultrasonography to diagnosis distal ureteric obstructions. Cystoscopy and retrograde ureterogram are not very helpful as the latter may actually distort the orifice that is under survey.

The refluxing megaureter with no evidence of obstruction usually does not require surgical intervention, and in children, it may improve in calibre with age. However, evidence of obstruction warrants surgical management of the obstructing lesion. The most common manifestation of ureteric obstruction is usually recurrent or persistent urinary tract infection with progressive renal parenchymal loss. Excision of the narrow segment and a ureteroneocystostomy is the treatment of choice. A limited tailoring of the distal most ureter which is to be placed in the intravesical tunnel is sometimes necessary.

This case presents an example of unnecessary delay in diagnosis and treatment of an easily correctable congenital anomaly in a 5 years old patient. An awareness on the part of physicians and surgeons managing pediatric patients is essential to detect these lesions early to prevent progressive renal damage.

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## Congenital Obstruction of the Ureterovesical Junction.

An unusual cause of recurrent urinary tract infection

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### ABSTRACT:

An unusual case of unilateral congenital ureterovesical junction obstruction leading to recurrent urinary tract infection and renal parenchymal damage is reported. Following radiological diagnosis, the five years old patient underwent a distal right ureterectomy and a ureteroneocystostomy. The patient is asymptomatic and off all medications 8 months following surgery.

**Key words :** Congenital ureterovesical junction obstruction-recurrent urinary tract infection.

### INTRODUCTION :

The incidence of urinary tract infection ranks second only to bacterial respiratory tract infections in the paediatric age group<sup>1,2</sup>. The symptoms of urinary tract infection may be vague and a high index of suspicion on the part of the physician is mandatory to make an early diagnosis and prevent delay in initiating appropriate therapy. The high incidence of congenital urological abnormalities associated with recurrent urinary tract infections, especially in males, makes complete evaluation of the urogenital system essential. Many anomalies are amenable to surgical correction and carry a good prognosis if corrected before renal parenchymal damage occurs.

### CASE REPORT :

N. N. A 5 years old boy was referred to The Aga Khan

University Hospital from Bangladesh for evaluation and treatment of recurrent urinary tract infection. Since one year of age, he had experienced recurrent high grade fever with chills, increased urinary frequency and nocturnal enuresis. This was occasionally accompanied by dysuria. He was treated periodically with antibiotics, but without long term control of his symptoms.

At the time of admission to hospital, the patient's height was 104 cms (25th percentile) and weight was 17 kgs (25th percentile). He was afebrile. On examination, his abdomen was non tender with a palpable right kidney. A complete blood count revealed an increased white cell count of 15,300/cmm with 63% polymorphonuclear leucocytes and 32% lymphocytes. Urinalysis, serum electrolytes, blood urea nitrogen and creatinine were within normal limits. A urine culture failed to demonstrate any bacterial growth. A cystourethrogram revealed a normal urinary bladder without vesicoureteric reflux or bladder outflow obstruction. An intravenous pyelogram demonstrated a right hydronephrosis and significant hydronephrosis with cortical atrophy (Figs. 1A and 1B). The left kidney and ureter were normal. On fluoroscopy, a dilated, peristaltic right ureter was demonstrated with a persistent 3 cms long narrowing of the distal third extending into the ureterovesical junction.

A diagnosis of congenital obstructive megaureter was made. At laparotomy, the right ureter was found to be massively dilated, ending in a narrowed segment 3 cms in length at the junction with the bladder (Fig. 3) The patient underwent a distal ureterectomy and a ureteroneocystostomy employing the Cohen's technique<sup>3</sup>

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