

A Case Report of Vesico Ureteral Reflux (VUR)

^a Dr. Niveditha Samala*,

^a Dr. Padmavathi Mallela,

^b Dr.Rajasree T K.

^a Department of Anatomy, Osmania Medical College, Kothi, Hyderabad, Andhra Pradesh, INDIA.

^b Department of Anatomy, CMR Medical College, Jeedimetla, Hyderabad, Andhra Pradesh, INDIA.

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ABSTRACT

Vesico ureteral reflux defined as the abnormal retrograde flow of urine from the urinary bladder into the upper urinary tract. Vesico ureteral reflux affects 1-3% of healthy children. However the prevalence rises to 10 – 20 % in children with antenatally detected hydronephrosis, to 30% in siblings of children with known Vesico ureteral reflux, and to 30-40% in children with a proved urinary tract infection (UTI).

Introduction:

Vesico Ureteral Reflux - is an abnormal retrograde flow of urine from the urinary bladder into the upper urinary tract. It can be manifested by following signs & symptoms

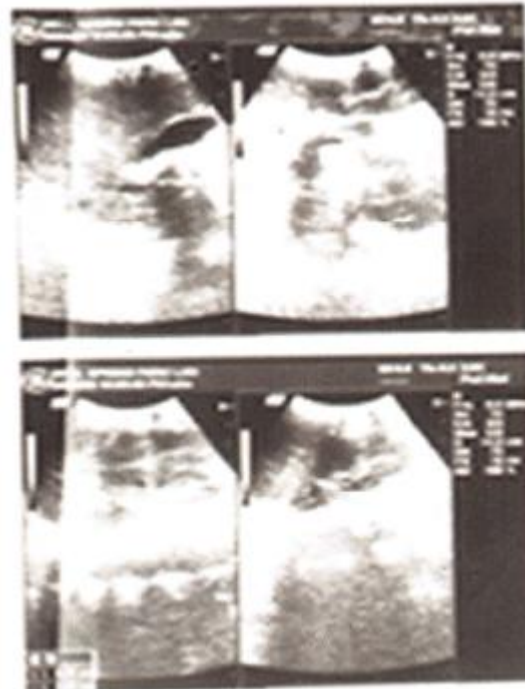
- Frequent and urgent urination
- Burning sensation during urination
- Abdominal / flank pain
- Dribbling of urine
- Recurrent attacks of fever
- Foulsmelling / cloudy urine
- Hematuria.

It is diagnosed by following investigations

- Urine analysis
- Ultrasonography of abdomen & KUB
- Micturating cysto urethrography (MCUG)
- Renal cortical scintigraphy (DMSA Scan)
- Types of Vesico ureteral reflux – Primary & Secondary

- Ultrasonography of abdomen & KUB – showed increased echopattern of upper pole of right renal cortex suggestive of infective process.

Micturating Cysto Urethrography (MCUG) – Demonstrated Grade IV Vesico Ureteral Reflux on Right Side



Corresponding author: Dr. Niveditha Samala*

E-mail address: snivedithak@yahoo.com

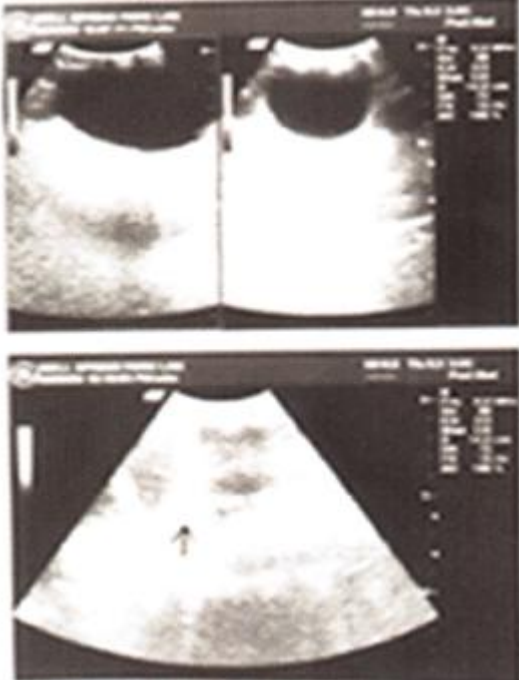
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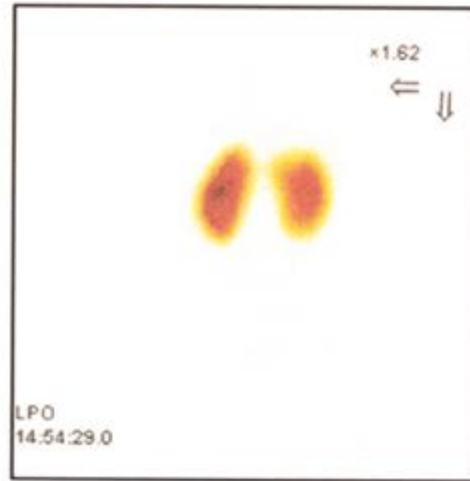
Observations:

In this present case a 3 years old boy was admitted with the complaints of repeated fever since 4-5 months, and was diagnosed as urinary tract infection.

- Physical examination was normal.
- Following investigations were done.
- Urine analysis –showed plenty of pus cells.

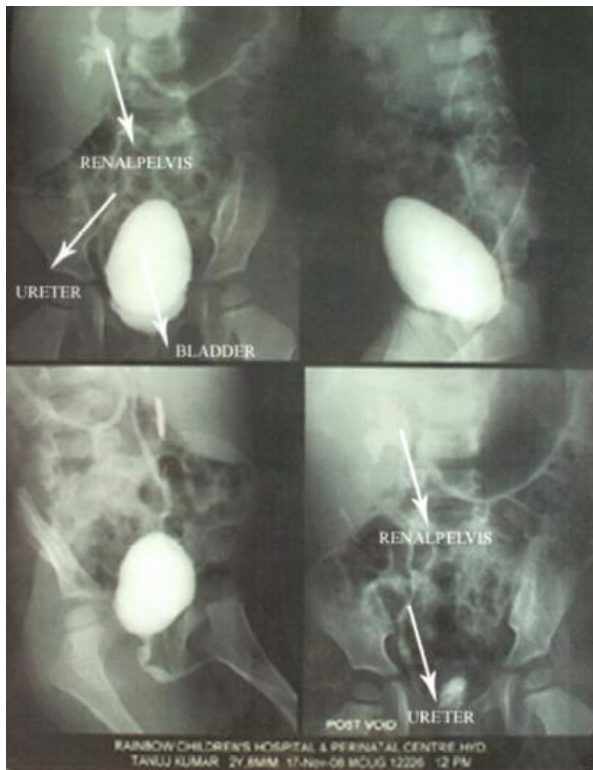
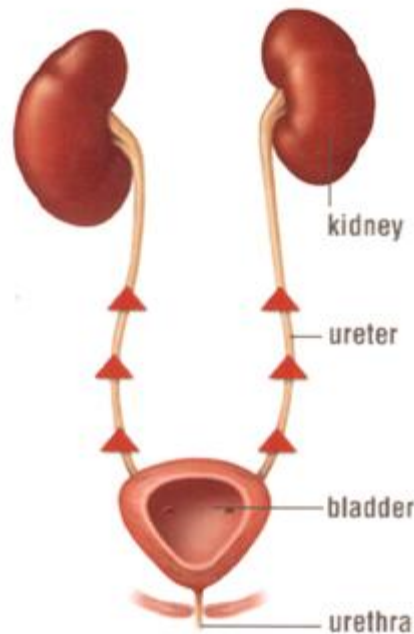


Renal Cortical Scintigraphy (DMSA Scan) –Showed Single Upper Pole Scar Detected in Right Kidney and Normal Left Kidney



Discussion:

Vesico Ureteral Reflux (VUR)



Grades of Vesico Ureteral Reflux – 5 grades:

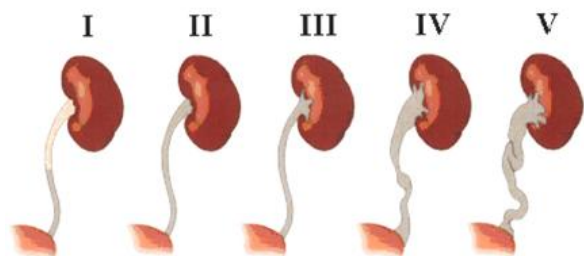
Grade I: Reflux into ureter only.

Grade II: Reflux into ureter and renal pelvis without hydronephrosis.

Grade III: Reflux into ureter and renal pelvis with mild hydronephrosis.

Grade IV: Reflux into ureter and renal pelvis with moderate hydronephrosis.

Grade V: Severe hydronephrosis with twisting of ureter.



This present case based on above observations diagnosed as recurrent UTI with grade IV Vesico Ureteral reflux with reflux nephropathy

Conclusion:

Present case diagnosed as recurrent UTI with grade IV with reflux nephropathy and undergone following treatment. Right ureteric reimplantation surgery under general anesthesia with antibiotic coverage. Postoperative antibiotic treatment for 3 months and ultrasonography performed after 5 months. Now the child growing well.

Types of Vesico Ureteral Reflux:

Primary and Secondary:

Primary VUR	Secondary VUR
- A defect in the valve between bladder and ureter	- Urinary tract infections
- Abnormal insertion of ureter	- Urinary tract abnormalities - Stricture of ureter, Duplicated ureter & Ureterocele
- Abnormal in detrusor muscle tissue of the bladder	- Urinary tract obstructions – Uretero pelvic junction obstructions, Stones & Tumors
- Abnormal location of urethral opening (Hypospadias)	

Complications:

- Pyelonephritis
- Renal scarring
- Hypertension
- Reflux neuropathy
- Kidney failure

Treatment:

Grade	Age (yrs)	Scarring	Initial treatment	Follow-up
I - II	Any	-	Antibiotic prophylaxis	-
III - IV	0 - 5	-	Antibiotic prophylaxis	Surgery
	6 - 10		U/L: Antibiotic prophylaxis B/L: Surgery	
V	< 1	-	Antibiotic prophylaxis	Surgery
	1 - 5	No	U/L: Antibiotic prophylaxis B/L: Surgery	Surgery
		Yes	Surgery	
	6 - 10	-	Surgery	

- Antibiotic prophylaxis
 - Amoxicillin - up to 6 weeks of age
 - Trimethoprim-sulfamethoxazole - after 6 weeks
- Surgery
 - Open surgery - Re-implant surgery
 - Endoscopic surgery

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