



# SUYASH Uro Times



A Quarterly News Letter From Suyash Nursing Home  
Jan. 2016 - 10<sup>th</sup> Issue

## From Editor's Desk

Dear colleagues,

Warm greetings from team "Suyash Uro Times"

It is my immense pleasure to publish 10<sup>th</sup> issue of the newsletter.

We started this activity as a continuous medical education. I am happy to inform you that we are getting overwhelming response from the doctors all over. General practitioners, specialists & super specialists have communicated personally and appreciated the activity.

We are starting a series of issues on most common urological disease of Pelvi ureteric junction obstruction.

This issue includes basics of Pelvi ureteric junction obstruction like Etiopathogenesis, Presentation & imaging in Pelvi ureteric junction obstruction

Please feel free to write to us on [suyashnursinghome@gmail.com](mailto:suyashnursinghome@gmail.com) regarding suggestions, advice or criticism so as to make us improve on the scientific stuff.

Looking forward to communicate with you time to time through this newsletter.

Dr. Sharad Somani

## Inside This Issue

### • Ureteropelvic Junction Obstruction Introduction, Etiopathogenesis & Presentation



**Dr. Sharad Somani**

MBBS, MS, DNB Mch, DNB MNAMS  
Urologist & Transplant Surgen

### • Imaging in PUJ obstruction



**Dr. M.D. Kulkarni**

Radiologist

**RENU IMAGING CENTRE**  
Plot No. 21, Nehru Place, Opp. CBS,  
Aurangabad - 431001.  
Phone : 0240 - 2347607, 8806075591

*Previous Issues of Suyash Uro Times are available  
at [www.suyashurology.com](http://www.suyashurology.com)*

## Previous issues

1 <sup>st</sup> issue - Oct 2013	:	Lasers in urology - Dr Sharad Somani
2 <sup>nd</sup> issue - Jan 2014	:	Managing BPH: Part 1 - Dr Sharad Somani, Premature ejaculation - Dr Nagesh Nagapurkar
3 <sup>rd</sup> issue - Apr 2014	:	Non surgical therapy of BPH - Dr Sharad Somani, Nocturnal enuresis - Dr Nagesh Nagapurkar
4 <sup>th</sup> issue - July 2014	:	Surgical management of BPH - Dr Sharad Somani, Seminal vesicle - Dr Nagesh Nagapurkar
5 <sup>th</sup> issue - Oct 2014	:	Urology - Dr Sharad Somani, Priapism - Dr Nagesh Nagapurkar
6 <sup>th</sup> issue - Jan 2015	:	Evaluation and management of Antenatal hydronephrosis – Dr Bimal Sahani Role of nuclear medicine in management of Antenatal hydronephrosis – Dr Prathamesh Joshi
7th issue - Apr. 2015	:	Urine analysis - Dr Dhanajay Bhale & Dr Ruta Bhale, Interesting cases - Dr Sharad Somani
8th issue - July 2015	:	Urinary Tract Infection in Children - Dr Pankaj Bhansali Urinary Tract Infection in Adults - Dr Ravindra V. Bhattu
9th issue - Oct. 2015	:	Diabetic Nephropathy - Dr. Kaustubh Sodani, Hypertension And Kidney Disease - Dr. Nahush Patel

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## For Private Circulation Only

<p>The only <b>Single dose-First line</b> antibacterial for <b>Acute Uncomplicated Cystitis</b></p> <p><b>SINGLE DOSE UTI Management</b></p> <p><b>Fosirol</b> Fosfomycin Trometamol Powder</p> <p><b>S</b> Superior susceptibility against E.coli <b>O</b> Optimal urinary concentrations allows one-time dosing! <b>L</b> Lower resistance ratios towards E.coli <b>O</b> One time dosing offers better patient compliance!</p>	<p>In the treatment of acute uncomplicated cystitis &amp; prophylaxis of recurrent UTI</p> <p><b>Urifast</b> Nitrofurantoin Monohydrate/Macrocrystal 100mg Capsules</p> <p><b>Minimise Resistance, Maximise Benefits</b> THE BID NITROFURANTOIN</p>	<p>A <b>non-antimicrobial solution</b> to take away the fear of recurrent UTI</p> <p><b>Cranfit™</b> Cranberry and D-Mannose Tablets</p> 	<p>In the Management of Complicated Lower UTIs</p> <p><b>Pruflox</b> Prulifloxacin Tablets 600 mg</p> <p>THE • POWER • IN • BEING • TRUE</p>
<p>First time in India with <b>OCDS Technology</b> Oral Controlled Delivery System</p> <p><b>Urimax 0.4</b> Capsules</p> <p>Once Daily <b>Urimax</b> Also available in 15's Strips</p>	<p>World's First Combination of Tamsulosin (0.4 mg) &amp; Dutasteride (0.5 mg)</p> <p>Once Daily <b>Urimax D</b> Tamsulosin Hydrochloride 0.4 + Dutasteride 0.5</p> <p><b>Relax</b>, it works like a charm.</p> <p>For Symptomatic BPH Patients with Enlarged Prostate</p>	<p>For Symptomatic BPH Clinically Uroselective Alpha<sub>1A</sub>- Blocker</p> <p>Once Daily <b>Alfusin</b> (Alfuzosin Hydrochloride 10 mg Extended Release Tablets)</p> <p><b>Be in full flow.</b></p> <p>Reduces PVR, Effective in the Management of AUR Improve success rate of TWOC in Patient with AUR for Sexually Active BPH Patients</p>	<p>For Urolithiasis</p> <p><b>STON 1B6</b> Potassium Citrate, Magnesium Citrate &amp; Vit B6</p> <p>85% Reduction in Recurrence of Urinary Stones Superior Efficacy Than Potassium Citrate</p>

# Ureteropelvic Junction Obstruction

## Introduction, Etiopathogenesis & Presentation

Dr. Sharad Somani

### Introduction :

- It is a functionally significant impairment of urinary transport from the renal pelvis to the ureter.
- More common in males than females (2:1)
- Bilateral in 10 to 30% cases

### Pathogenesis

#### Congenital

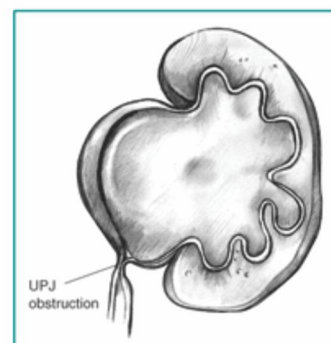
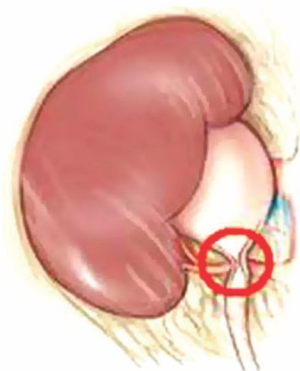
- Most cases are congenital resulting from intrinsic disease.
- Presence of an aperistaltic segment - spiral musculature normally present is replaced by abnormal longitudinal muscle or fibrous tissue - Failure to develop peristaltic wave for propagation of urine from renal pelvis to ureter.
- Decreased interstitial cells of Cajal at the UPJ
- Role of Cytokine, transforming growth factor- $\beta$ , epidermal growth factor expression, nitric oxide, and neuropeptide Y
- True ureteral stricture – a less frequent cause
- Kinks or valves
- External bands or adhesions
- High insertion of ureteral ostium – primary or secondary, more common with renal ectopia or fusion anomalies
- **Aberrant vessels** - found in 63% of cases of UPJ obstruction v/s 20% of normal kidneys, usually a branch from main renal artery or aorta supplying lower pole, they cross ureter posteriorly and have an aberrant course.

### Acquired

- Stone disease
- Postoperative or inflammatory stricture secondary to scarring or ischaemia
- Urothelial neoplasm, fibroepithelial polyps
- Extrinsic obstruction
- Vesicoureteral reflux leading to upper tract dilatation with elongation, tortuosity and kinking of the ureter leading to UPJ obstruction.

### Presentation

- Though commonly congenital, can present any time in life
- Antenatal sonography detecting asymptomatic hydronephrosis, many are subsequently found to have UPJ obstruction In neonates and infants.
- Finding of a palpable flank mass In older children or adults
- Intermittent abdominal or flank pain at times associated with nausea or vomiting.
- Incidental detection during investigation for other illness
- Detection during evaluation of azotemia - bilateral obstruction or obstruction in functionally or anatomically solitary kidney
- Hematuria, either spontaneous or associated with minor trauma
- Rarely, hypertension



# Imaging in PUJ obstruction

Dr. M.D. Kulkarni

## Imaging studies are performed with a goal of

- Confirmation of diagnosis
- Determining anatomic site of obstruction
- Determining functional significance obstruction
- Treatment planning

## Imaging studies include

- Plain X ray abdomen / KUB
- Ultrasonography
- Renal doppler
- Intravenous urography
- CT abdomen & CT IVU
- MRI

## Plain X ray

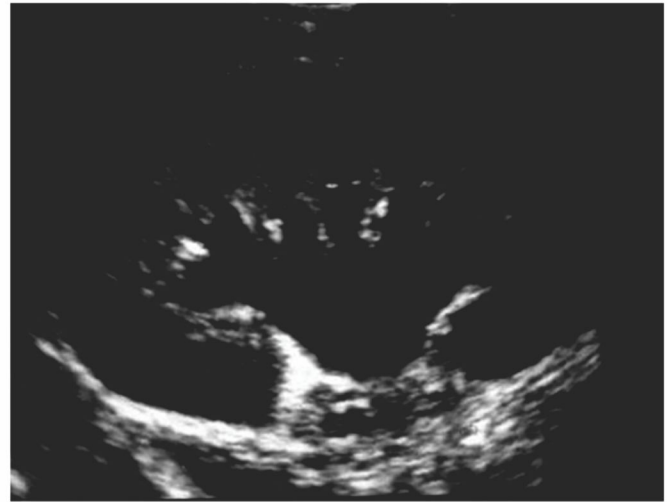
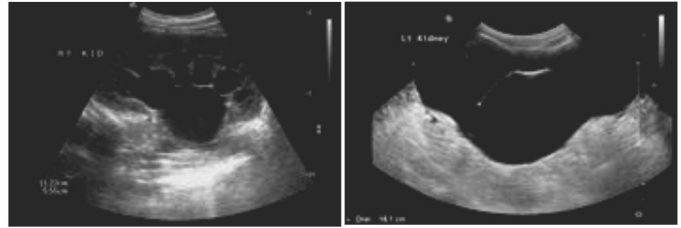
- Plain X-ray abdomen may show large soft tissue shadow in the renal region.
- Associated renal calculi can be seen.
- However, this modality is rarely used as it does not give functional & treatment planning information.

## Ultrasonography

- Economical, easily available powerful diagnostic tool giving realtime information.
- A 3-5 Mhz curvilinear(sector) transducer is sufficient for assessment.
- It will often show a dilated renal pelvis with a collapsed proximal ureter.
- The urine contents can also be appreciated for E/o internal echoes/debris/renal pelvic urothelial oedema/mass.
- Associated cortical thinning may be mild, moderate or severe, depending upon the duration & degree of obstruction.
- Presence of even small calculi can be appreciated with accuracy.
- Various measurements e.g. renal size, cortical thickness, cortico-medullary ratio, size of renal pelvis etc can be recorded accurately for treatment & follow-up.
- In neonates and infants, suspicion of UPJ obstruction is suggested by routine performance of maternal ultrasonography.

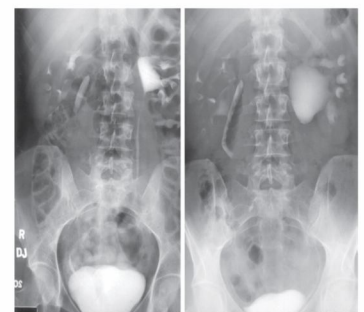
## Renal doppler

- The obstruction results in increased flow resistance within the renal parenchyma, mainly in the microvasculature of kidney. These obstructed kidneys may show higher resistive indices (RI) & increased pulsatility(PI).
- Importance of Doppler study in obstruction is that the high pulsatility may be apparent before significant urinary tract dilatation is evident.
- Useful for assessing the aberrant crossing vessels at the PUJ, especially when surgical intervention is planned.



## Intravenous urography

- Traditionally intravenous urography (IVU) has been performed for assessing for PUJ obstruction.
- Classical findings include delay in function associated with a dilated pelvicalyceal system.
- If the ureter is visualized, it should be of normal caliber.
- In some patients, symptoms may be intermittent and urography between painful episodes may be normal. In such cases the study should be repeated during an acute episode when the patient is symptomatic.
- Provocative testing with diuretic urography may allow accurate diagnosis in select cases. The patient should be well hydrated and the study then performed after injecting furosemide. This is particularly useful to exclude a dilated non-obstructed upper collecting system (so called 'baggy pelvis').



### CT Scan

- CT scan is frequently obtained for any patient presenting with acute flank pain.
- CT scan provide detailed anatomic and functional information to aid in diagnosis of UPJ obstruction.
- Both ultrasonography and CT scanning also have a role in differentiating acquired causes of obstruction such as radiolucent calculi or urothelial tumors.
- CT with two- and three-dimensional post processing allows a comprehensive, single-study assessment of the ureterovascular relationships in UPJ obstruction.
- CT urography with 3-D imaging is useful for properly assessing the obstruction & dilated tract.

### MRI

Occasionally required in cases of azotemia or contrast allergy.

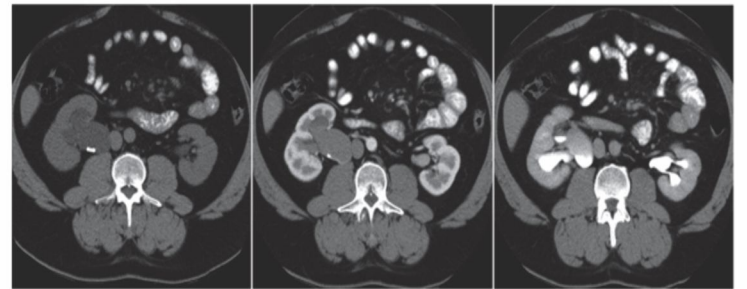
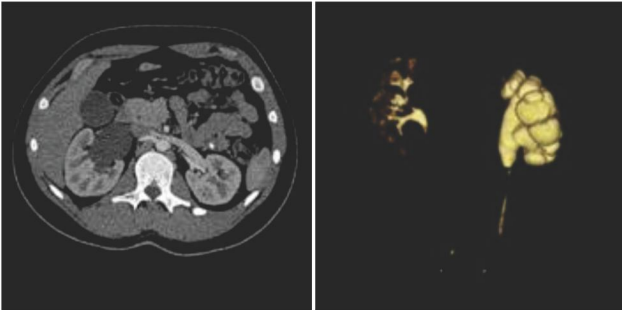
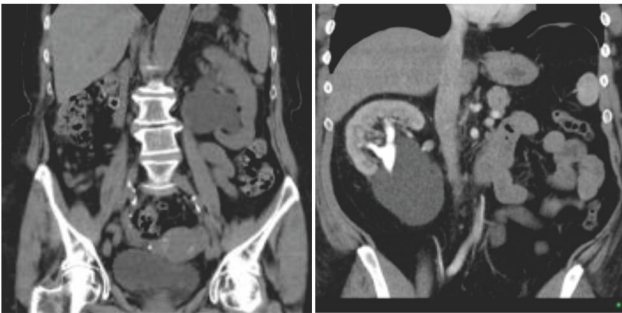
### Differential diagnosis

Imaging differential diagnosis considerations include:

Congenital megacaliectasis: central renal pelvis tends to be relatively collapsed

Extrarenal pelvis

Parapelvic cyst



## RENU IMAGING CENTRE

CT SCAN - ULTRASONOGRAPHY - X RAY

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# Suyash Nursing Home

## Complete Urology Setup

### FACILITIES AVAILABLE

- ▶ Endoscopic Treatment Of Stone  
In Kindey, Ureter and Bladder
- ▶ Endoscopic Treatment Of Prostate (TURP)
- ▶ LASER - 50 Watt, German Technology  
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- ▶ Kidney Transplant
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