

## Transrectal Ultrasound For The Diagnosis Of Lower Ureteric Calculus

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### Abstract:

Mid or Lower Ureteric calculi are one of the common causes of hydronephrosis and hydroureter. While ultrasound is commonly done to diagnose presence of obstructive uropathy it may be difficult to demonstrate presence of calculus in obese patients or in patients with unsatisfactory bowel preparation. In such cases before going for IVP or CT scan transrectal ultrasound should be done as IVP and CT Abdomen is associated with contrast reactions and radiation respectively.

**Keywords: Obstructive Uropathy, Distal ureteric calculus, TRUS, IVP and CT abdomen.**

### Introduction:

Hydronephrosis due to ureteric calculus is one of the common occurrence in urologists' practice. Many a times radiologists are requisitioned to do ultrasound abdomen and pelvis of this patients. While in many thin patients it is possible to demonstrate presence of calculus in mid or lower ureter in obese patients and in whom there are bowel gases it is difficult to demonstrate presence of ureteric calculus. In such patients many a times IVP or

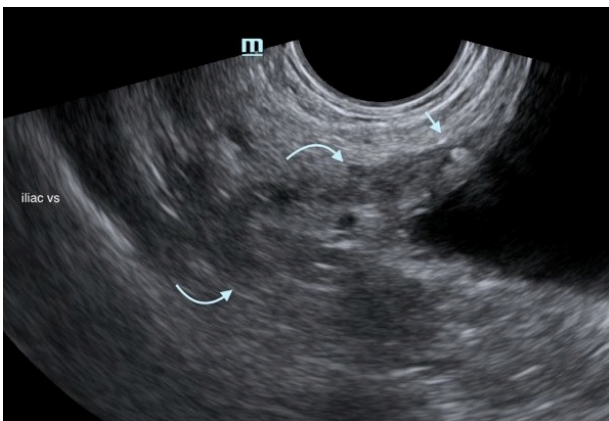
CT Scan (Non contrast Enhanced CT ) is done.

But IVP involves administration of contrast agent and CT scan is associated with radiation exposure. transrectal ultrasound (TRUS) can be used as an alternative to IVP and CT Scan in patients having hydronephrosis and where calculus couldn't be demonstrated by trans abdominal ultrasound.

### Case Report:

A 26 year old male presented with history of abdominal pain, haematuria and burning

micturation since 1 week. There was a past history of presence of multiple non-obstructing renal calculi in the past. On ultrasound examination there was right hydronephrosis with upper hydroureter. Left kidney was normal in size shape and echo texture. On trans abdominal ultrasound lower ureter could not be demonstrated. Since there was a past history of presence of non obstructing renal calculi there was a strong suspicion of obstructive uropathy due to mid or lower ureteric calculus. A transrectal ultrasound was done which could well demonstrate presence of distal ureteric calculus responsible for hydronephrosis and hydroureter.



**Figure 1 : Transrectal Ultrasound showing Distal Ureteric calculi. The calculus was not visible through trans abdominal ultrasound.**

### Discussion:

Approximately 10-15% of the population is expected to get renal colic at some stage of their life. One of the most common yet important cause of renal colic is urolithiasis. Males are more commonly affected than females. While ultrasonography is the investigation of choice for diagnosis of renal calculi it is sometimes difficult to demonstrate the presence of calculi in middle or distal portions of ureter. It is extremely difficult to demonstrate the calculus in mid or lower ureteric portion specially in obese patients. For this reason alternative investigations like IVP and CT scan is being increasingly done. But IVP and CT scan are associated with contrast reactions and radiation hazard respectively. Moreover these investigations may not be available at all the places. For this reason an alternative method of diagnosis of lower ureteric calculus which is easily available and inexpensive ie transrectal ultrasound can be used.

**Conclusion:** In cases with hydronephrosis where there is a strong suspicion of presence of mid or lower ureteric calculus a transrectal ultrasound (TRUS) should be done before doing IVP or CT Abdomen.

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