

## **Comparison of Un-Enhanced CT of Kidney, Ureter and Bladder with Intravenous Urogram for Detection of Stones and Obstruction**

**Introduction and Objectives:** To compare the diagnostic accuracy of unenhanced CT (CT KUB) and intravenous urogram (IVU), performed in the same patient.

**Material and Methods:** We retrospectively reviewed radiological and clinical data of patients who had both CT KUB and IVU for suspected stone and obstruction in the last 6 years. Only those patients were selected who had CT KUB and IVU procedure both within 4 weeks of each other. The data was analyzed using commercially available statistical packages i.e. epidata™ and SPSS™. The number of calculi, presence of hydronephrosis and hydroureter, cysts and wall thickening were looked at in both CT and IVU. Additionally perinephric stranding in CT and delayed excretion in IVU was also evaluated.

**Results:** Of the 139 patients there were 87 males and 52 females. There was 73.4% (n=102) of patients who had positive findings on CT KUB and 51.1% (n=71) on IVU. Of the 193 total findings, in CT KUB the number of calculi, presence of mass, hydronephrosis, hydroureter, cysts, wall thickening and perinephric stranding were seen in 80 (41.5%), 1(0.5%), 43 (22.3%), 34(17.6%), 1 (0.5%), 4 (2.1%), 7 (3.6%) patients, respectively. In IVU the number of calculi, hydronephrosis, hydroureter, cysts, wall thickening and delayed excretion were seen in 46 (36.5%), 31 (24.6%), 18 (14.3%), 1 (0.8%), 1 (0.8%) and 5 (4.0%) respectively. In addition incidental findings were more in CT KUB (n=23/139) than IVU (2/139).

**Conclusion:** CT KUB has demonstrated higher number of calculi and related obstruction than IVU. Increase in number of incidental findings also makes CT more useful.