

Appropriately investigating first presentation of acute renal colic and the diagnostic yield of CT KUB for renal calculi and alternative diagnoses in adults

Dr Farah Aslam, Department of General Surgery, Newham University Hospital

Background: Guidance by NICE and European Association of Urology (EAU) state diagnostic investigation by non-contrast computed tomography (CT-KUB) is the imaging modality of choice for acute renal colic.^{1,2} However, despite performing low-dose CT scans, radiation exposure still remains. It is therefore important to identify appropriate use of CT-KUB and assess if a reasonable diagnostic yield is achieved.

Standard: (Based on published studies)^{3,4}

- detecting calculi in at least 44% of patients
- Alternative diagnoses in at least 6%
- CT-KUB performed within 24 hours of request.

Method: A retrospective study over 9 months identified 75 adult patients with first episode of acute renal colic who were investigated with a non-contrast CT-KUB.

Results: Data collected for 75 patients comprised of 46 males and 29 females; ranging from 21 to 88 years of age.

- 93% (70/75) of CT-KUB scans were completed within 24 hours of presentation
- A delay between 27.5 - 32 hours for having the scan occurred in the remaining 7% (5/75); owing to weekend requests.
- CT-KUB successfully diagnosed calculi in 88% (66/75).
- A further 8% (6/75) had an alternative diagnosis (appendicitis, pyelonephritis, bladder malignancy) with an unidentified cause of acute renal colic in 4% (3/75).

Conclusion/Recommendation: CT-KUB provided good diagnostic yield for detecting calculi and recognizing alternative diagnoses. However, the accessibility to weekend scans needs to be addressed by liaising with the radiology department. Perhaps performing an ultrasound scan in cases of delay is an alternative, safe and non-radiating option to confirm or refute a renal pathology.