What is the intervention rate for acute ureteric stones? 2-year experience from a large UK Centre
T. Austin, T. Drake, S. Deverill, S. Keoghane
Queen Alexandra Hospital, Portsmouth, United Kingdom

Introduction: Acute flank pain remains a common clinical presentation to Emergency Departments, but this symptom encompasses many possible diagnoses. Non-contrast computed tomography of the urinary tract (NCCT KUB) has superseded intravenous urography as the Gold Standard investigation for patients presenting with acute flank pain suspicious for renal colic.

Objectives: We aimed to examine the diagnostic yield of NCCT KUB in patients presenting with acute flank pain suspicious for renal colic, and to assess subsequent emergency intervention rates in those with a confirmed ureteric stone.

Methods: A database of all NCCT KUB scans performed between 1st March 2013 and 28th February 2015 was compiled using electronic radiology records. A retrospective review of the CT scans, electronic and paper medical records was performed to enable data collection on patient and stone characteristics, together with the indications and outcomes of all emergency interventions.

Results: In the 24-month study period, 2790 CT KUB scans were performed at our Institution. Of these, 1453 scans (52.1%) were performed for patients presenting with acute flank pain suspicious for renal colic. 784/1453 scans (54%) confirmed a diagnosis of urolithiasis, of which 598/1453 scans (41.2%) showed a ureteric stone. Of those with a ureteric stone, 96/598 (16.1%) required intervention in the form of retrograde ureteric stent placement (n = 60), percutaneous nephrostomy insertion (n = 20), primary ureteroscopy (n = 14), primary extracorporeal shock-wave lithotripsy (n=1) and emergency nephrectomy (n= 1). Ureteric stent placement was successful in 60/60 cases (100%). Nephrostomy tube placement was successful in 20/20 cases (100%). There were no deaths in any patient undergoing emergency intervention. Indications for intervention included infection and obstruction (n=50) and intractable pain (n=32). A further 9 patients underwent intervention for obstructive uropathy.

Patients managed with nephrostomy insertion tended to have a mean stone size 60% larger than those managed with ureteric stent insertion or primary ureteroscopy. Mean length of stay was 11 days for those undergoing nephrostomy insertion, compared to 4.5 days for those undergoing either JJ stent insertion or primary ureteroscopy.

Conclusions: The diagnostic yield of NCCT KUB for diagnosing ureteric stones in patients presenting to a large UK hospital with acute flank pain suspicious for renal colic was 41.2%. The majority of those with a confirmed ureteric stone (83.9%) did not require emergency intervention. Further studies are needed to determine predictive indicators for those patients requiring emergent intervention, and to guide optimal management of patients with obstructive urolithiasis.