Rationale Use of Un-Enhanced Multi-Detector CT (CT KUB) in Evaluation of Suspected Renal Colic

Introduction and Objective: To assess the yield of CT KUB across different ordering specialties and need for developing an algorithm for its rationale use.
Materials and Methods: We retrospectively reviewed 1550 consecutive CT KUB studies requested for suspected renal colic carried out at a single institution in a calendar year. The data was analyzed for demographic characteristics, referring clinician and final diagnosis. Only patients with CT as primary imaging for clinically suspected reno-ureteral colic were included. CT referrals by outside physician as well as those who had missing data were also excluded. Departments ordering these CT KUB examinations were divided into three divisions: Urologist, ER physician and others (Medicine, GS and etc).
Results: Of 1550 CT KUB performed in the study period 766 met the inclusion criteria. Most of the examinations were ordered by urologists (57%), followed by ER physicians (30%). The overall positive yield for urolithiasis was 64% (n= 490), rate of incidental/alternate findings was 15.1% (n= 116) and 20.9% (n=160) were negative. Urologist has the highest positive yield of 67.35% (n=295) followed by ER physician 66.9% (n=152) and others 42.5 %(n=43); $p< 0.001$. Rate of incidental/alternate findings was highest in CT ordered by other specialties 23.7% (n= 24) followed by ER physician 17.6% (n=40) and urologist 11.8% (n=52); $p=0.005$.
Conclusion: There is statistically significant difference of yield across specialties. A tool for good history taking and physical examination has proved to be essential steps in algorithm of ordering CT KUB which can avoid unnecessary radiation exposure.