

Safety of Outpatient Investigation of Renal Colic

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Background

Renal colic is a familiar presentation to the Emergency Department (ED) with an incidence of around 1 per 1000 people annually¹. Current guidelines from the British Association of Urological Surgeons recommend that low-dose non-contrast CT-KUB is the preferred imaging modality to assess the need for treatment, and that this should be performed within 24 hours of an acute presentation.² More recent studies have suggested that in many patients, imaging can be safely performed as an outpatient with up to three weeks delay.³



Figure 1: CT-KUB showing 7mm calculus at VUJ

Since 2011 we have used a guideline (see figure 2) for investigating renal colic that permits many patients to be discharged with outpatient imaging and follow up.

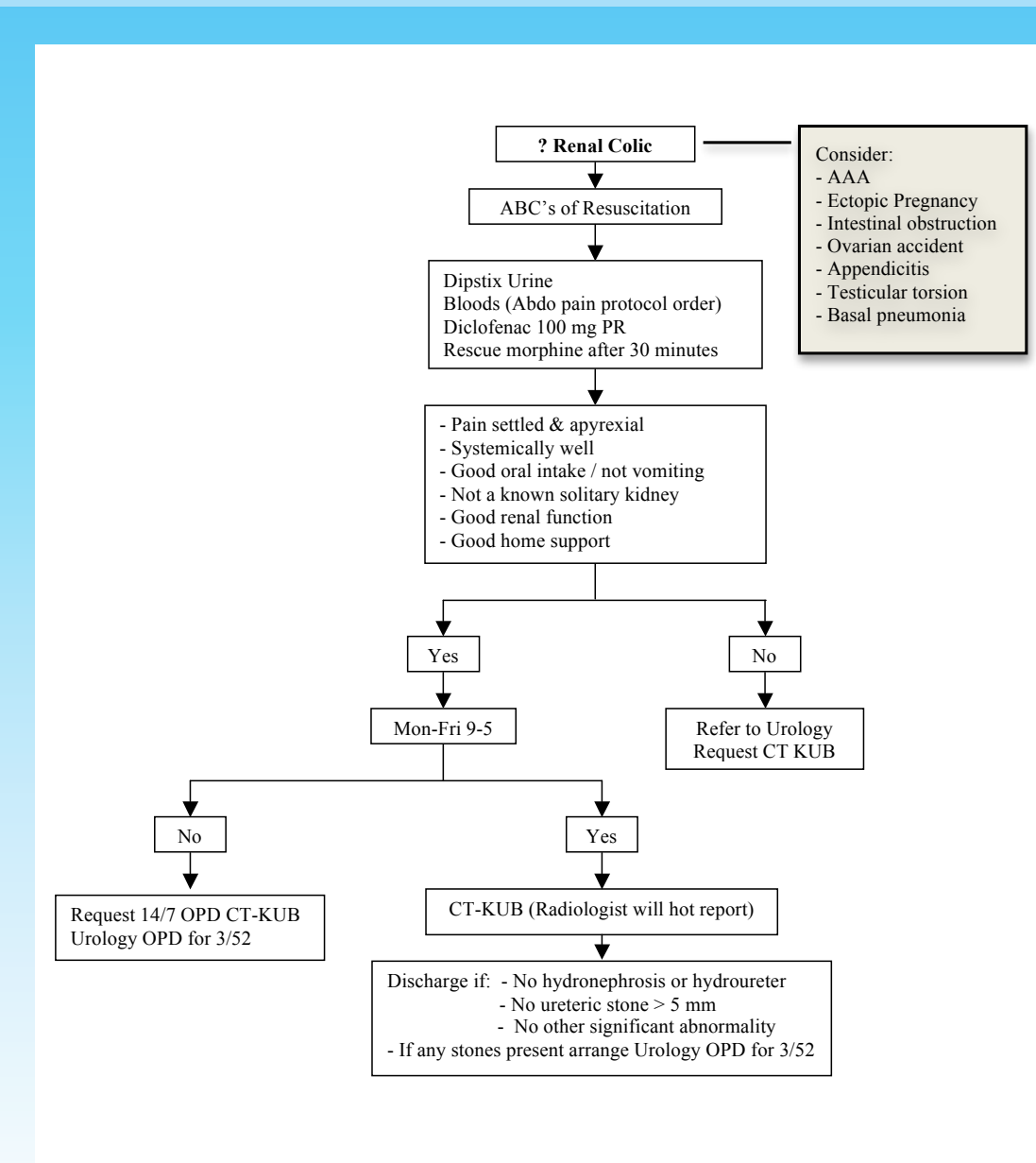


Figure 2: Simplified version of current departmental guideline

Methods

Our PACS system was searched for CT-KUB requests made by an Emergency Physician between January 2012 and January 2015. Casenotes and imaging reports were reviewed for each identified patient. Patients with clinical indications for admission/urgent drainage were excluded.

Results

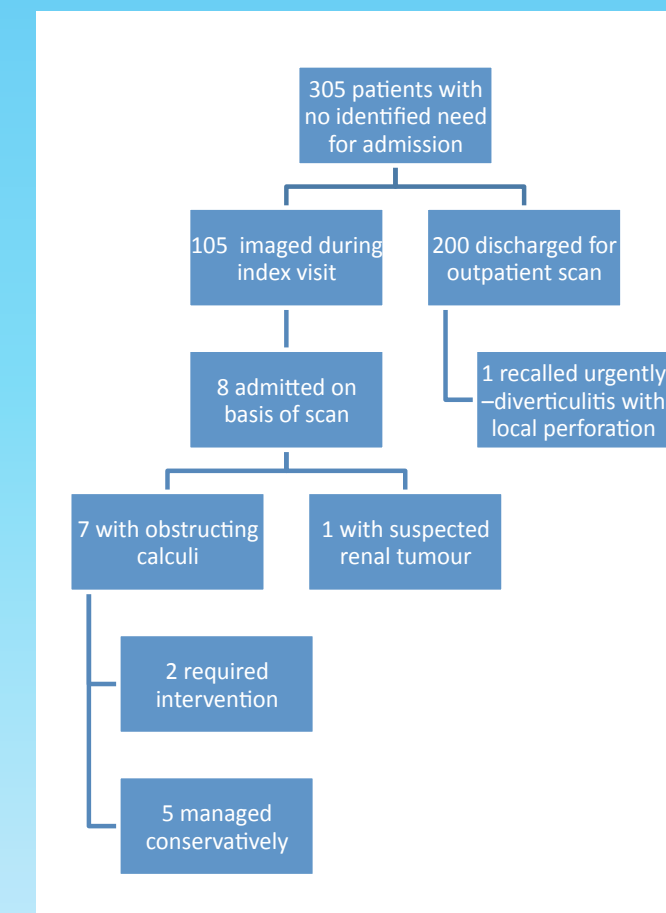


Figure 3: Outcome of patients managed by the guideline

The median time from presentation to scan for those treated as an outpatient was eight days (range 1 to 46).

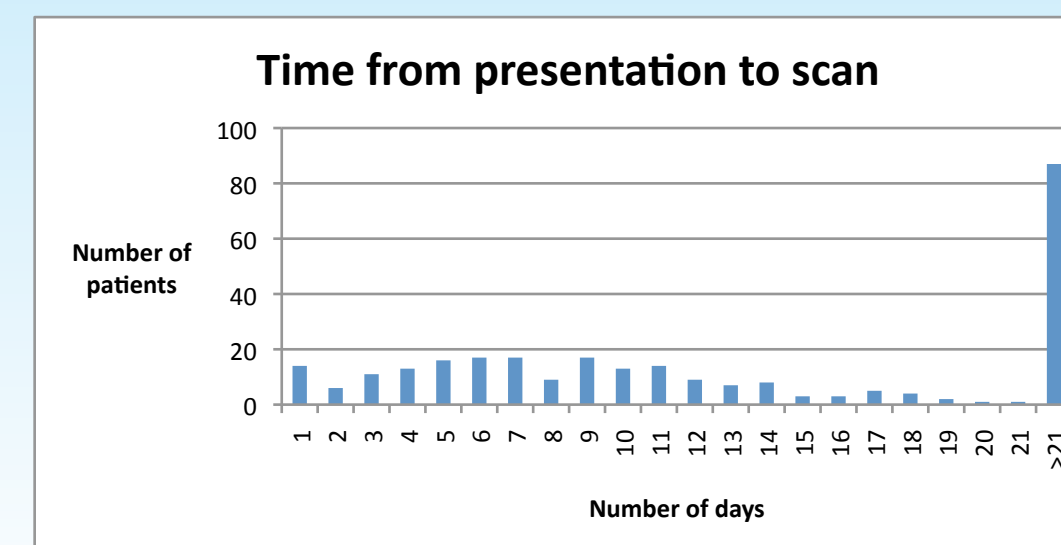


Figure 4: Distribution of times between presentation and scan for outpatients

	CT-KUB during index visit	Outpatient CT-KUB	P-value
Number	105	200	
Mean age	40	44	0.08
Male	68 (65%)	120 (60%)	0.46
Unplanned reattendance	16 (15%)	35 (18%)	0.75
Final diagnosis of renal colic	58 (55%)	101 (51%)	0.47
Complications	3 (3%)	6 (3%)	1.0
Intervention in those with renal colic	23 (40%)	41 (41%)	1.0

Table 1: Characteristics and outcomes of patients managed by the guideline

Conclusion

Our experience is that with appropriate clinical risk stratification, delayed outpatient CT-KUB for suspected stone disease is safe with no significant increase in unplanned reattendance, complications, or need for intervention over immediate imaging.

Outpatient imaging allows better planning of cover and resources, without unduly burdening on-call radiology staff or the risk of delaying clinically more urgent scans.

References

- Curhan GC. (2007) Epidemiology of Stone Disease. *Urol Clin North Am.* 34(3):287-293
- British Association of Urological Surgeons. (2012) Guidelines for Acute Management of First Presentation of Renal/Ureteric Lithiasis. [Online] [Accessed 30th July 2015]. Available from: http://www.baus.org.uk/_userfiles/pages/files/Publications/RevisedAcuteStoneMgtGuidelines.pdf
- Lindqvist K, Hellstrom M, Holmberg G, Peeker R, Granabo L. (2006) Immediate versus deferred radiological investigation after acute renal colic: A prospective randomized study. *Scan J Urol Nephrol.* 40:119-124

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