

Radiological Investigation in Acute Renal Colic Using CT KUB: Clinical Audit

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INTRODUCTION

CT KUB is the investigation of choice when investigating acute renal colic in adult population (excluding pregnant women), as per iRefer RCR guidance¹. It also falls in line with NICE guidance for acute renal colic², British Association of Urological Surgeon (BAUS) guidelines for management of acute ureteric colic³, and European Association of Urology (EAUS) guidelines on urolithiasis⁴.

AIM

This audit assesses appropriate imaging investigation in presentation with acute renal colic, as well as the diagnostic yield of CT KUB scans in terms of renal calculi and alternative diagnoses.

COMPARATIVE STANDARD

- CT KUB should be used to investigate acute renal colic in all adults >=18 years old (excluding pregnant women) unless the patient is a known recurrent stone former and had a CT KUB in the last 3 months then USS/KUB x-ray may be sufficient. ^{1,3}
- CT KUB should be performed within 24 hours of presentation. ²
- According to published studies conducted at regional centers, CT KUB should detect calculi in 44-64% of patients, with alternate diagnoses noted in 6-18. ³⁻⁷

METHOD

First Cycle data collection via hospital electronic record system

Evidence-based practice review and stakeholder involvement

Second Cycle (post intervention) data collection via electronic record system

Results analysed against standard. Posters created and disseminated

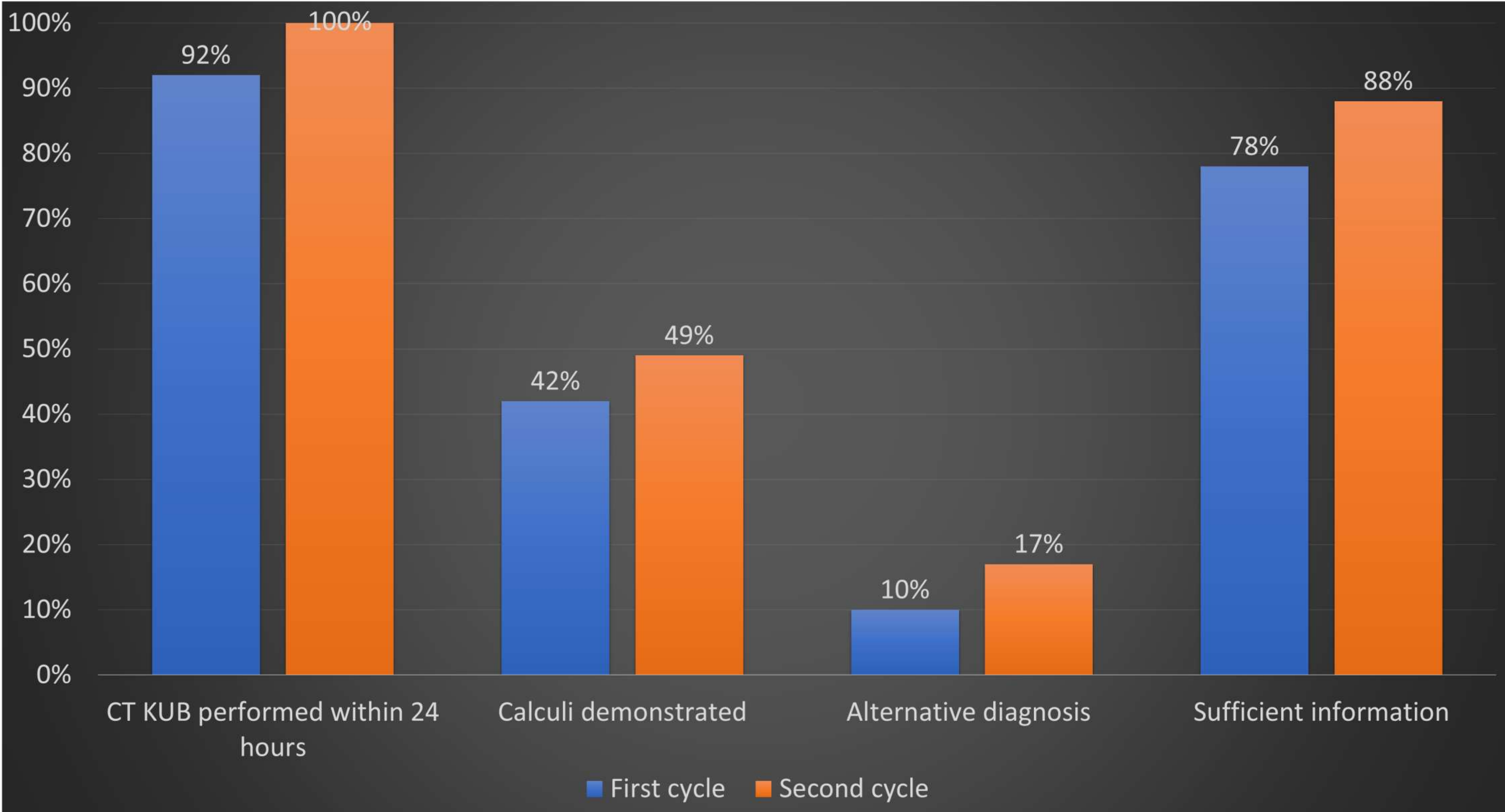
Improvements fed back and stakeholders aware of change

Results analysed against standard. Improvements noticed & highlighted.

RESULTS

Two audit cycles of CT KUB requests and reports were undertaken pre- and post-intervention (1st cycle n=77, 2nd cycle n=76) between September 2022 and August 2023.

	First cycle (n=77)	Second cycle (n=76)
CT KUB performed within 24 hours	71	76
Calculi demonstrated in the study	32	37
Alternative diagnosis in the study	8	13
Sufficient information in the request	60	67



Category	First cycle (%)	Second cycle (%)
CT KUB performed within 24 hours	92%	100%
Calculi demonstrated	42%	49%
Alternative diagnosis	10%	17%
Sufficient information	78%	88%

CONCLUSIONS

The first cycle revealed minimal compliance, delay in scan time, along with omitting key details required for request requests (side of pain, examination findings, urine dip, previous imaging, relevant surgical history), and effective report in time.

As seen within the second cycle, our purpose intervention, developed through stakeholder input and strive for positive change, local requirements, and best practice guidelines, markedly improved requesting, reporting and timing of scans.

Efforts should be made to keep raising awareness and improve the quality of the care provided.

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