



Audit of ultrasound guided percutaneous renal biopsies performed in a large teaching hospital

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Introduction

- Renal biopsies play a vital role in establishing the diagnoses of both native (N) and transplant (T) disease.
- Adequate samples enable accurate histopathological diagnosis and prompt treatment of patients

Aims

- To assess the sample diagnostic adequacy and safety/complication rates of ultrasound guided percutaneous renal biopsies at LTHT

Standards

- N: Previous audit/RCR standards based on literature
- T: Banff criteria

	Native	Transplant
Adequate	10+ glomeruli	10+ glomeruli AND 2+ arteries
Minimal	N/A	7-10 glomeruli AND 1 artery
Unsatisfactory	<10 glomeruli	<7 glomeruli OR no arteries
	Re-biopsy within 2 months Complications requiring further intervention	

- A targeted biopsy was considered adequate if the focal lesion was present in the sample at histological examination

Methods

- Retrospective data collection of all USS guided kidney biopsies in six month time period (September 20 to February 21)
- Data collection and complications identified using patient notes and CRIS

Results

2020-2021 Audit Cycle			
Total number of biopsies	179		
	Native	Transplant	Targeted
Number	92	57	30
Mean no. of glomeruli	15	18	N/A
Adequate sample (%)	66	72	89
Re-biopsy rate (%)	4	4	11
Major complications (%)	0.3		
Minor complications (%)	4		

Discussion

- Sample adequacy is similar to the previous audit. Whilst adequate samples were only achieved in approximately 2/3rd of cases, the reference standards are considered high and the low re-biopsy rate reflects the real world diagnostic adequacy.
- Complication rate remains low. The only major complication was an active arterial bleed which was successfully embolised by IR (image below).



Action plan

- Re-audit at regular intervals
- Trainees to keep logbook of biopsies to contribute to ARCP
- Direct supervision of trainees for set number of biopsies

References

- H Ramotar, Smith J. Single operator/trainer renal biopsy complications in a tertiary centre: service provision audit. Leeds Teaching Hospitals audit.
- Comparison of native and transplant kidney biopsies: diagnostic yield and complications. *Clin Kidney J* 2018; 2