Background:

Renal Biopsies have proven to be of an important diagnostic value and can inform management decisions however the complications rates quoted in our consent form are generic the aim of this study was to generate our own failure /success rates. Renal Biopsies performed in the hospital over 1year period were audited, looking at complication rates for different operators and sample adequacy.

Methods:

This has been a retrospective single centre study, looking at all the patients who had a renal biopsy between August 2016 and August 2017.

All the Data were collected from the patient’s electronic and paper records, Collected Data included: Patients Demographics, type of biopsy, operators, complications, pathology reports with focus on number of Glomeruli, adequacy of the sample and histological diagnosis.

Complications were divided to Major complications (Large Haemorrhage requiring intervention) and minor complications (minor haemorrhage causing Haematuria or perinephric haematoma, biopsy of other surrounding organs, pain and failure of first attempts)

The Study looked at the operators of all the biopsies and their level (Consultant radiologist, Consultant Nephrologist or Nephrology registrars).

Results:

107 Renal Biopsies were done during the Audited time, 95(88.7%) were Native and 12(11.2%) were Transplant, 55(51.4%) of the Procedures were performed by Nephrology Registrars, 46(42.9%) by Nephrology Consultants and 6 (5.6%) were radiologically guided.94 patients (87.8%) had no complications from the procedure, two patients (1.86%) had Post Biopsy Haemorrhage requiring renal artery Coiling (one of these two biopsies at the time was radiologically guided and the other one was performed by a senior nephrology registrar).one patient developed Haemorrhage, AKI and a clot in the renal pelvis requiring cystoscope and stent insertion, the procedure at the time was performed by a nephrology consultant. Two Biopsies (1.86%) showed non-renal tissues (spleen and large bowel respectively), both procedures were performed by Nephrology consultants. Two patients (1.86%) had to have their procedure repeated due to a failed first attempt, Four Patients (3.73%) developed post biopsy Haematuria, two of these four patients required catheterization and irrigation, only one patient developed a perinephric haematoma, 1 patient had significant pain.7 (6.5%) samples were inadequate with not enough glomeruli to establish a diagnosis, 4 by consultant nephrologist, 2 by nephrology registrars and 1 was radiologically guided.

Conclusions

There was an adequate tissue for diagnosis in 93.4% of cases, our rate of major complications was 2.80% which is higher compared to the quoted 0.066% in the generic consent form yet achieving a standard of < 5%, minor complications were observed in 10 patients (9.34%), our 1.5 WTE Nephrology registrars performed 36 procedures while our 4.5 WTE nephrology consultants performed 10 procedures on average balancing the need to maintain skills vs supervising Registrars. This audit raises the questions what is the minimum amount of renal biopsies do you have to do to maintain your skills as a consultant and be able to supervise the trainees. Not all consultants can maintain their skill level due to finite number of biopsies per year.