

DAY CASE RENAL BIOPSY IS SAFE AND EFFECTIVE IRRESPECTIVE OF RENAL FUNCTION: RESULTS FROM A SINGLE-CENTER EXPERIENCE

By

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Introduction

Percutaneous renal biopsy is a useful diagnostic test to investigate renal dysfunction in native & transplant kidneys.⁽¹⁻²⁾ There has been a move towards day case biopsy as a more efficient use of patient and hospital time.⁽³⁾ However, there are concerns about the safety of day case biopsies especially in patients with abnormal renal function (eGFR<60ml/min).⁽³⁾

Methods

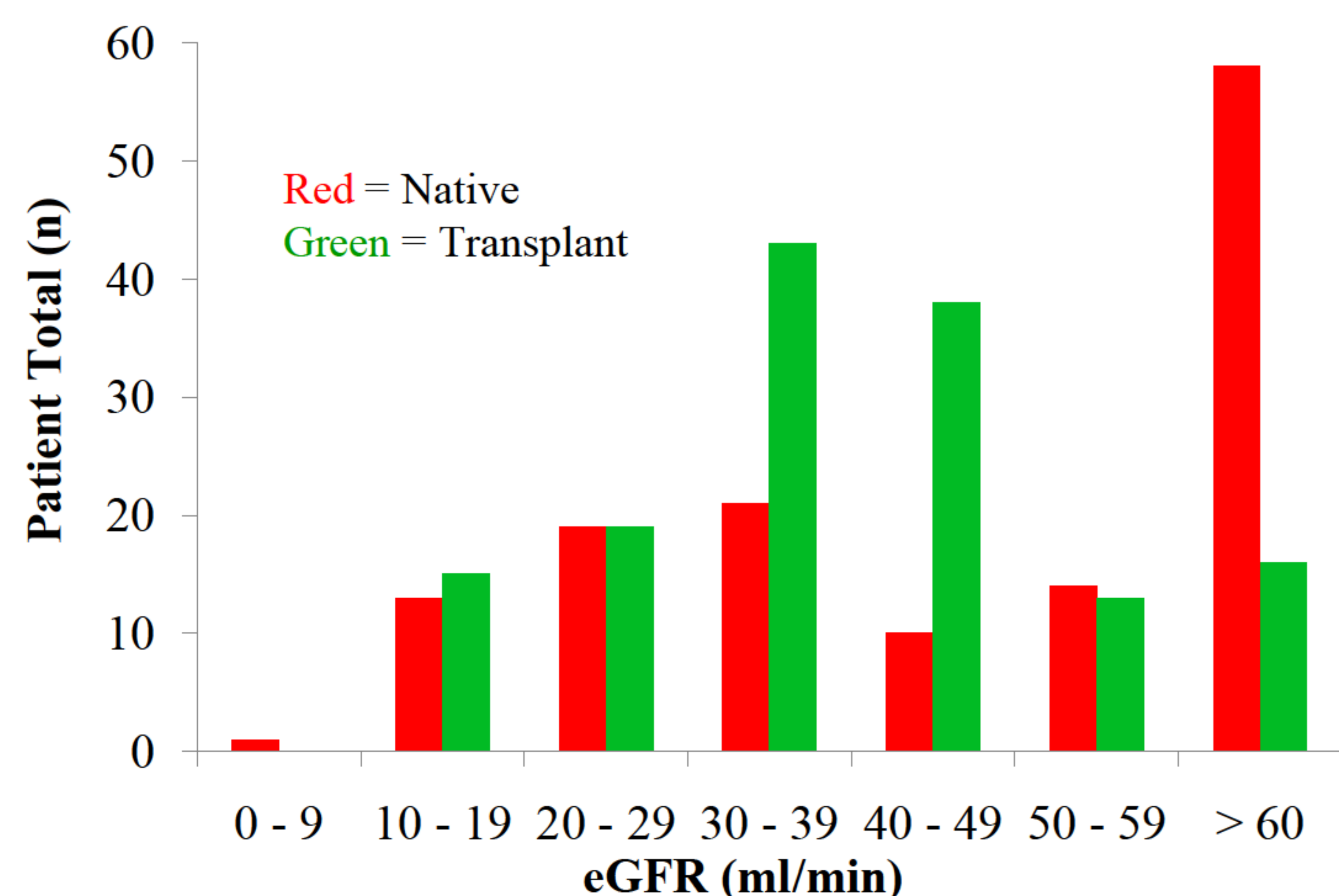
Data was collected prospectively on 280 (114 female) day case renal biopsies performed in our short stay facility, from November 2012 – October 2013. Patients were deemed fit if:

- Hb >8g/dL
- Plt >100
- INR & APTT <1.2
- BP <160/90
- If possible anti-platelet agents stopped >5 days pre-biopsy
- If creatinine >300umol/L received 20 mcg DDAVP prior to biopsy.

Biopsies were performed under ultrasound guidance using either a Temno needle or biopsy gun. The list was supervised by a named consultant. Patients were observed for 6 hours post biopsy and discharged if deemed suitable. Complications were identified via discharge summaries and hospital admission records. All biopsies were reviewed in our weekly histopathology MDT for diagnostic adequacy of sample.

Results

Biopsies were comprised of; 136 native, 87 transplant and 57 three month transplant protocol biopsy.



Graph 1) eGFR distribution in native and transplant biopsies.

Biopsies were diagnostic in 98.9% of cases (n=277), two transplant and one native were not diagnostic due to inadequate sampling.

	Native	Transplant	Protocol
Discharged	134	86	57
Admission	2	1	0
Percentage (%)	1.5	1.2	0
eGFR (mean)	63.5	33	N/A

Table 1) Outcome 6 hours post biopsy.

Three patients required an overnight admission for transient macroscopic haematuria with no drop Hb and no intervention required (minor complication).

One patient had an accidental biopsy of their spleen as well as kidney and was admitted to another trust four days later with a splenic haematoma.

Overall the bleeding risk for a day case renal biopsy was 1%. The splenic haematoma was the only complication requiring blood transfusion.

Conclusions

- Diagnostic results were obtained in >98% of cases.
- Percutaneous day case renal biopsy is a relatively safe and effective procedure as shown by the small number of admissions and need for transfusion.
- The only transfusion requiring event occurred >48 hours post procedure & was discharged home by that time as per discharge criteria for an elective day case admission.
- The data shows that the bleeding risk for both native and transplant renal biopsy were independent of the eGFR.

Therefore, renal biopsies can be performed as an outpatient even in those with significant renal impairment. The overall costs and cancellation rates were also less compared to when biopsies are performed via an inpatient bed. This not only results in improved patient satisfaction, but also benefits the trust.

References

- 1)Whittier WL, Korbet SM. (2003) Timing of Complications in Percutaneous Renal Biopsy. *Journal of the American Society of Nephrology*. 15, 142 – 47.
- 2)Carrington CP, Williams A, Griffiths DF, Riley SG, Donovan KL. (2010) Adult Day-Case Renal Biopsy: A Single Centre Experience. *Nephrology Dialysis Transplantation*. 26, 1559 – 63.
- 3)Maya ID, Allon M. (2009) ASDIN: Percutaneous Renal Biopsy: Outpatient Observation Without Hospitalisation is Safe. *Seminars in Dialysis*. 22, 458 – 61.

