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NON-VISIBLE HAEMATURIA IN LIVING KIDNEY DONORS

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Introduction

- Long term donor outcome following living kidney donation has recently come under scrutiny [1,2]
- Current guidelines suggest persistent asymptomatic non-visible haematuria (PANVH) requires thorough assessment
- Renal biopsy is recommended to exclude glomerular pathology where dipstick haematuria is ≥1+ [3]
- For persistent **trace** haematuria – considered a normal variant in primary care – current guidance is not clear
- We investigate whether renal pathology and long-term outcome differ between donors with trace or higher-degrees of PANVH

Methods

- Retrospective analysis of all living kidney donors with PANVH assessed in the SW Thames Transplant Network from 1999 to 2013
- Degree of haematuria based on the highest of 3 sequential readings
- All donors underwent a full renal work up
- Renal biopsies were submitted for light microscopy, immunostaining and electron microscopy

Age at Donation (Range)	51 +/- 12 years (26-65)
Pre-Donation GFR (Range)	90.0 +/-11.3 mL/min/1.73m^2 (69-117)
BMI (Range)	25.6 +/-3.6 kg/m2 (19-32)

Results 1

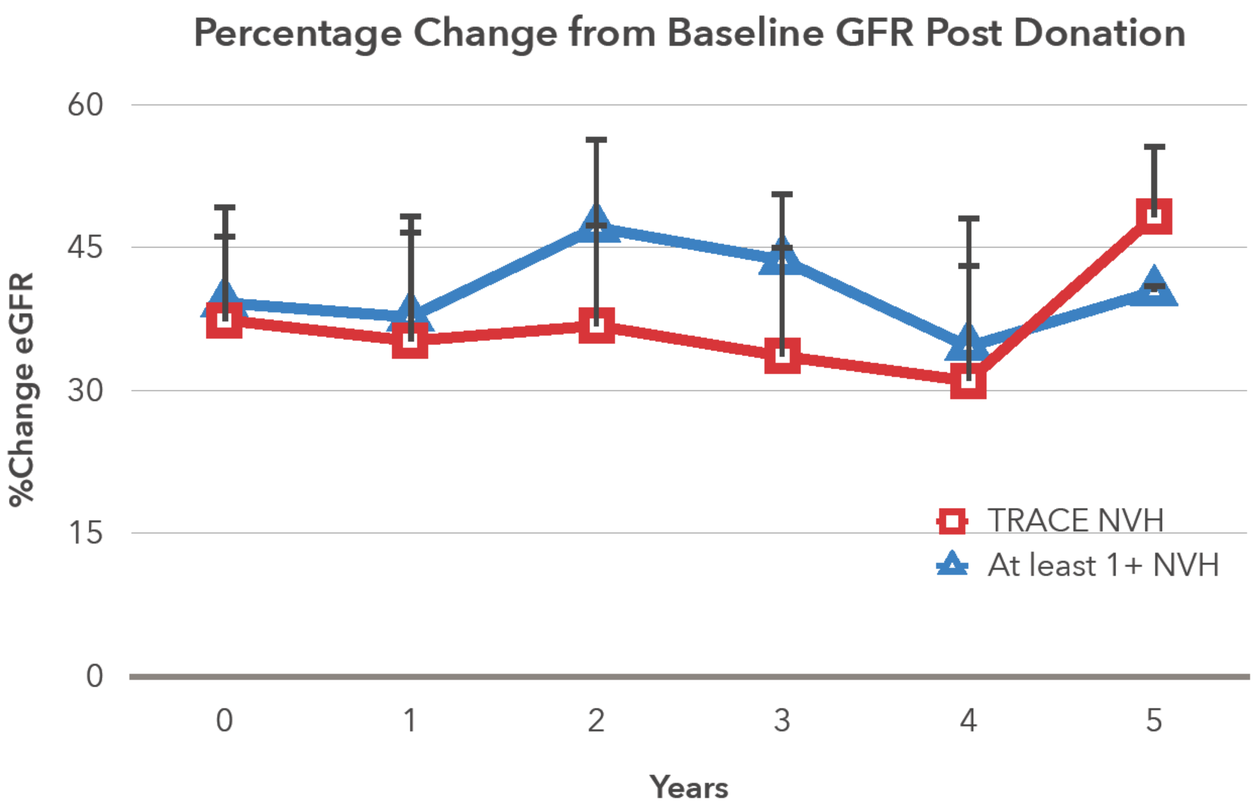
- 38 patients (10 Male) with PANVH proceeded to living kidney donation
- 22 donors were genetically related to the recipient, 16 were unrelated (2 altruistic)
- Mean proteinuria was 8.9 mg/mmol (max 21.8)
- 21 (55%) donors underwent cystoscopy, all with normal findings
- Four patients (11%) were receiving antihypertensive medication
  - 26% patients had BP 159/89–140/80 mmHg
  - 74% had BP <140/80 mmHg
- 22 renal biopsies were performed and 15 sufficient for electron microscopy; 6/15 (40%) had basement membrane thickness <300 nm (only 1 case with trace PANVH; unrelated male, focal 220 nm, uPCR 7, eGFR 95 @6years)
- No donor with trace PANVH failed to proceed to donation based on biopsy

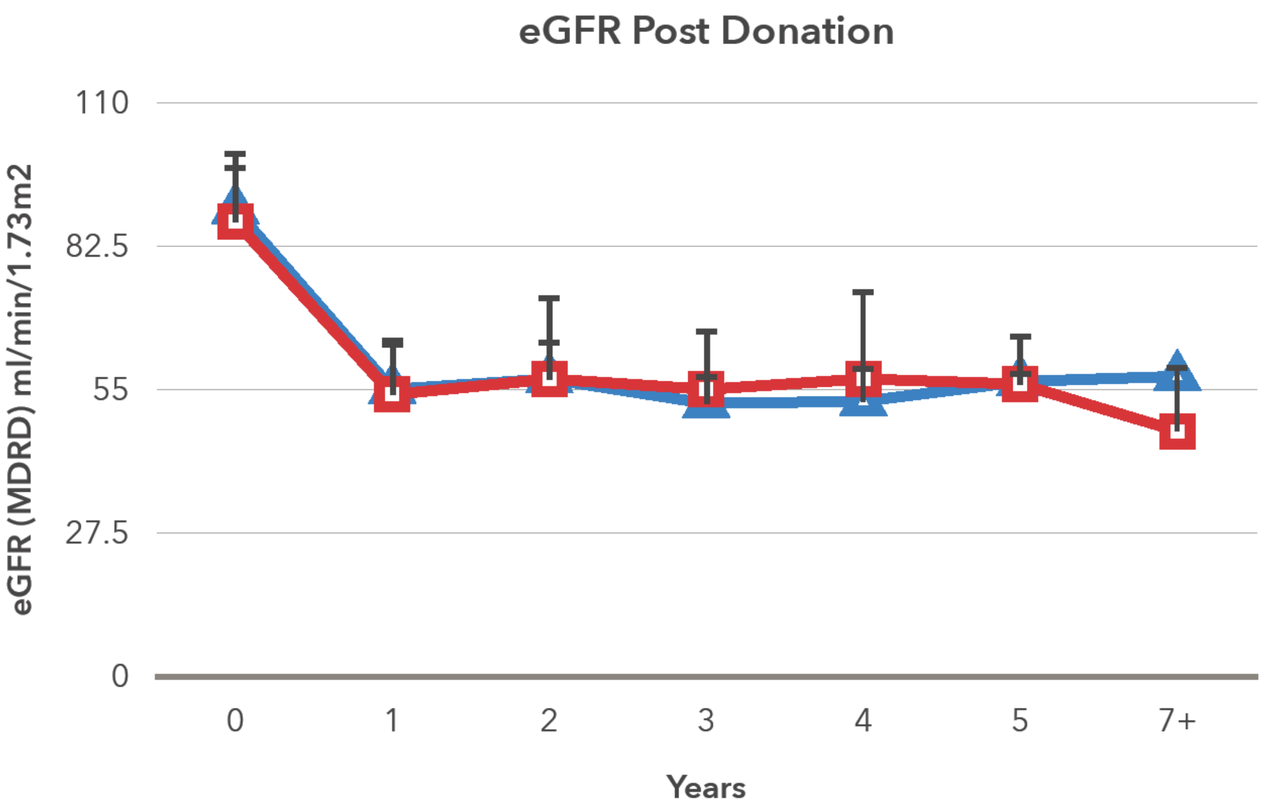
PANVH	No. Biopsied/ Total
Trace	9/17
+1	6/12
+2	3/4
+3	4/5

Biopsy Findings	Trace	At least 1+
NAD	2	8
Non-specific IgM +/- C1q staining	7	5
Total	9	13

Results 2

- Patients with trace PANVH vs higher degrees of haematuria, demonstrated no difference in outcome (eGFR, proteinuria, blood pressure, antihypertensive use) despite histological studies being less likely to return normal findings
- eGFR at 1 year post-transplantation fell by 38% in both groups, but stabilised over subsequent years with no significant difference between the groups
- No donor with PANVD progressed to ESRD





References

1. Reese PP, Bloom RD, Feldman HI, et al. Mortality and cardiovascular disease among older live kidney donors. Am J Transplant 2014;14:1853-61.
2. Massie AB, Wang MC, et al. Risk of end-stage renal disease following live kidney donation. JAMA 2014;311:579-86.
3. UK guidelines for living donor kidney transplantation 3rd edition 2011.

Conclusions

- Our data suggest donors with any degree of PANVH do well
- Biopsies performed for trace PANVH showed no pathology to alter management and may not be best practice
- Longer-term follow up of larger patient groups is ongoing to confirm this hypothesis

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