This is a repository copy of *Linear and Nonlinear Estimated GFR Slopes in ADPKD Patients Reaching ESRD*.

White Rose Research Online URL for this paper:
http://eprints.whiterose.ac.uk/130268/

Version: Accepted Version

Article:
Neagu, M., Coca, D. orcid.org/0000-0003-2878-2422 and Ong, A.C.M. (2018) Linear and Nonlinear Estimated GFR Slopes in ADPKD Patients Reaching ESRD. American Journal of Kidney Diseases, 71 (6). pp. 912-913. ISSN 0272-6386

https://doi.org/10.1053/j.ajkd.2018.01.052

Reuse
This article is distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND) licence. This licence only allows you to download this work and share it with others as long as you credit the authors, but you can't change the article in any way or use it commercially. More information and the full terms of the licence here: https://creativecommons.org/licenses/

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk/

Linear and non-linear eGFR slopes in ADPKD patients reaching ESRD

Letter to the Editor, AJKD Re: Brosnahan et al, AJKD 2017

Dear Sir

We read with interest this paper reporting patients from the HALT-PKD trials with non-linear eGFR slopes and non-progressors as defined by serial eGFR [1]. Although these results are interesting, it is uncertain how they relate to the entire course of disease or long-term clinical outcomes in unselected non-trial populations.

We performed a retrospective analysis of individual eGFR slopes in an unselected ADPKD patient group reaching end-stage renal disease (ESRD) at our centre over four decades (1978-2016). To capture changes over a longer period, we restricted analysis to patients with a minimum of 10 years available annual eGFR-EPI measurements prior to ESRD, dividing them into two groups based on their initial eGFR: Group A (>100ml/min/1.73m^2; n=12) and Group B (<100ml/min/1.73m^2; n=25). Data from eGFR slopes were fitted to linear or non-linear models of eGFR decline.

The majority of patients in both groups had a linear decline in eGFR with a higher percentage in Group B. However a significant number in both groups (25-36%) showed a more complex pattern. Examples of each are shown in Figure 1. In conclusion, a linear decline in eGFR was observed in the majority of patients with ADPKD reaching ESRD. However deviations from linearity (unrelated to acute events) occurred in a significant proportion of patients and may be informative for clinical management, future trial design and mechanistic studies.

Matei Neagu PhD [1,3]
Daniel Coca PhD [3]
Albert CM Ong DM [1,2]

[1]Academic Nephrology Unit, Department of Infection, Immunity and Cardiovascular Disease, University of Sheffield; [2]Sheffield Kidney Institute, Sheffield Teaching Hospitals NHS Foundation Trust [3]Department of Control and Systems Engineering, University of Sheffield, Sheffield, UK

1. Brosnahan GM, Abebe KZ, Moore CG, et al. Patterns of Kidney Function Decline in Autosomal Dominant Polycystic Kidney Disease: A Post Hoc Analysis From the HALT-PKD Trials. *Am J Kidney Dis.* 2018.