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| 1. **Please summarise what the grant enabled you to achieve;** **what would not have been possible without the funding? (Up to 500 words)**

The BSH grant provided essential funding to complete an observational study of haemostasis in patients with chronic kidney disease, predominantly funded by Kidney Research UK. Without the additional funding, the full evaluation of haemostasis would not have been possible. This work illustrated that patients with CKD exhibit concomitant features of hypercoagulability and platelet dysfunction on global tests of haemostasis. |
| 1. **Briefly describe the aims and intended outcomes of this project. Please clearly indicate if there is any sensitive information in this report that should remain confidential for now. (Up to 300 words)**

To evaluate haemostasis in patients with different stages of CKD using novel coagulation assays. Standard coagulation assays are inadequate for prediction of bleeding and thrombotic events in patients with CKD. This project sought to evaluate haemostasis with rotational thromboelastometry (ROTEM), multiple electrode aggregometry (MEA), thrombin generation assays, D-dimer, and markers of thrombogenesis (thrombin-antithrombin [TAT]), fibrinolysis, and endothelial activation (intercellular adhesion molecule-1 [ICAM-1]). |
| 1. **Describe the key outcomes to date, including whether this grant has resulted in further research. Please summarise your conclusions**. **(Up to 600 words)**

A cross-sectional study including 30 healthy controls and 120 patients with CKD from stage 4 to haemodialysis dependent were included. Patients with CKD exhibit concomitant features of hypercoagulability measured by thrombin generation and ROTEM with platelet dysfunction evident on Multiplate. eGFR (a marker of severity of CKD) independently predicted both hypercoagulability and platelet dysfunction.Further research is proposed to investigate utility of Multiplate (and other untested assays) in prediction of bleeding in patients with CKD. |
| 1. **List published papers, oral and/or poster presentations as a result of this grant.Include manuscripts in preparation or in submission / under review, prefaced by an asterisk.**

Abdelmaguid A, Roberts LN, Tugores L, Joslin JR, Hunt BJ, Parmar K, Nebres D, Naga SS, Khalil ES, Bramham K. Evaluation of novel coagulation and platelet function assays in patients with chronic kidney disease. *J Thromb Haemost.* 2022;20(4):845-856. A. Abdelmaguid, L.N. Roberts, J. Joslin, B.J. Hunt, K. Parmar, K. Bramham, POS-789 Evaluation of thromboelastometry and multiple electrode aggregometry in end-stage renal disease, *Kidney International Reports*, 2021;6 (4):S343, |
| 1. **Did any patent applications arise from this work? (If yes, please detail. Up to 200 words)**

N/a |
| 1. **Were you successful in any further grant applications as a result of this work? (If yes, please detail. Up to 200 words)**

Dr Roberts received an MRC CARP award (£243k) in 2023 to further investigate haemostasis in acutely ill patients with advanced liver disease. This study further investigates haemostasis using some of the assays utilised in the COAG-KD study in a multicentre observational cohort of hospitalised patients with cirrhosis. The experience gained in COAG-KD was a contributory factor to the successful funding application.  |
| 1. **Did new collaborations arise from this work? (If yes, please detail. Up to 400 words)**

n/a |
| 1. **What was the funding amount you received and how was it actually spent? (detail item/activity and amount spent in pounds)**

Award £9966, expenditure £7734 on laboratory consumables for thrombin generation and Multiplate (see separate excel file for full breakdown)Expenditure was lower than predicted as it proved difficult to recruit patients with CKD newly commencing dialysis and there were therefore fewer patients requiring repeat testing following initiation of dialysis. |
| 1. **What are the future research priorities in this area?**

Further evaluation of markers of haemostasis in predicting clinical outcomes in patients with CKD, particularly periprocedural bleeding and/or thrombosis. |