P082

P082 -A detailed characterisation of cognitive impairment in patients with non-dialysis CKD

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Introduction
Cognitive impairment (CI) is often undiagnosed in patients with CKD [1–3] despite national guidelines supporting cognitive assessments for patients with CKD [4]. Cognitive assessments are time consuming and not performed routinely in renal medicine. Nephrologists often overlook identification of CI in their population [5]. These unidentified cognitive deficits may explain non-adherence to renal diet, fluid, medication and even dialysis regimens. This study set out to quantify the incidence of CI in non-dialysis CKD and highlight specific groups of the population in whom to concentrate CI assessments.

Methods
This study is a sub-study of the Salford Kidney Study (SKS). The SKS is a large UK longitudinal epidemiological cohort study of all-cause non-dialysis CKD. 250 patients without previously diagnosed cognitive disease were approached and consented to undergo cognitive assessments between December 2016 and August 2018. A combination of 3 cognitive assessments comprising of the Montreal Cognitive Assessment (MoCA) and Trail Making A and B (TMTA and TMTB) were used. Pearson bivariate correlations were analysed between all continuous biochemical and demographic variables and standardised Z scores for each test. Patients were identified with CI if their MoCA score was<26 [6]. CI was also defined by a standardised Z score falling in the lowest quartile of the distribution test scores in any of the cognitive tests [7]. Univariate binary logistic regression was performed for all categorical values to determine factors significantly predictive of CI using either criteria. Patients also underwent quality of life assessment using the EQ-5D-5L instrument.

Results
250 participants completed the MoCA, (median eGFR 33 (IQR 21-46) ml/min, median age 66 (IQR 52-74years), and 239 participants underwent the MoCA and both parts of the TMT. 208 of these patients also completed the EQ-5D-5L assessment. 44% and 17% of participants could be diagnosed with CI using the raw MoCA score and the calculated Z score of all tests performed respectively. There was a positive correlation between MoCA, TMT A and TMTB with egfr (r= 0.216, p=0.001), haemoglobin (r = 0.226, p=0.001) and an inverse correlation between age (r= -0.480, p=0.000) (Table 1). There was no significant correlation between patients perceived health and MoCA score. The odds ratios of influence of variables for CI using the MoCA are shown in Figure 1. Variables which associated with CI using the MoCA and <-1.34 standard deviation of any Z test score were age >65 years, atrial fibrillation, heart failure and advanced CKD (stages G4 or G5).

Conclusions
At least 1 in 5 patients had undiagnosed cognitive impairment. Older patients with more advanced CKD, cardiovascular disease and atrial fibrillation are most likely to suffer from CI. Reassuringly cognitive impairment does not seem to affect patients perceived health in CKD. This work will help determine which patients in CKD clinic should undergo cognitive assessments as part of routine care.