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P052 -Predicting risk of recurrent acute kidney injury: a systematic review

Predicting Risk Of Recurrent Acute Kidney Injury: A Systematic Review Hilda Hounkpatin¹, Dr Simon Fraser¹, Dr Liz Glidewell^{2,3}, Dr Thomas Blakeman⁴, Dr Andy Lewington^{5,6}, Professor Paul Roderick¹

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Background: Although the epidemiology of acute kidney injury (AKI) has been well described, less is known about recurrent AKI (r-AKI). We undertook a systematic review to identify incidence, risk factors, and outcomes of r-AKI.

Methods: Medline, Embase, CINAHL, Cochrane, Web of Science were searched, from inception to December 2017, for quantitative studies on adults with AKI, where follow-up included reporting of r-AKI. Two reviewers independently identified studies and assessed study quality.

Results: From 2824 citations, 10 cohort studies met inclusion criteria (total patients n=538,667). There were 2 distinct set of studies; Four studies assessed r-AKI within the same hospital admission (most were intensive care unit (ICU) patients) and six studies assessed post-discharge r-AKI. The median percentage of people developing r-AKI within the same hospital admission was 23% (IQR: 7.0%) and post-discharge r-AKI was 31.3% (IQR: 7.4%). A higher Acute Physiology and Chronic Health Evaluation (APACHE) score was associated with increased risk of r-AKI within the same hospital admission in ICU patients. Cardiovascular disease and AKI severity were associated with increased risk of post-discharge r-AKI. R-AKI (within same admission and post-discharge) was associated with worse survival. It was not possible to pool results due to methodological differences across studies, such as varying definitions for AKI and r-AKI, varying length of follow up and effect measures.

Conclusion: More representative population based studies with robust assessment of predictors and consensus definition of r-AKI are needed to identify risk factors and develop risk stratification tools to reduce recurrence and improve outcomes.