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P064 -Can small rises in serum creatinine in hospitalised patients predict outcomes?

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Acute Kidney Injury (AKI) is a global health issue, with a reported incidence that varies depending on the definition used and setting in which it is reported (Ali et al., 2007; Bagshaw et al., 2005; Holmes et al., 2016; Waikar et al., 2006). Characterised by an acute decline in kidney function, it has been reported extensively that patients with AKI have poor short-term and long-term morbidity and mortality (Holmes et al., 2016; Talabani et al., 2014; Wonnacott et al., 2014). Moreover, patients suffering an episode of AKI consume greater resources and incur higher costs, largely from intensified monitoring, investigations and support necessitating longer hospital stay (Lachance et al., 2016).

The Royal College of Physicians recommended the implementation of an AKI electronic alert system (E-Alert system) to alert clinicians to AKI, with the presumption that early identification would lead to better outcomes. Therefore, using the Kidney Disease: Improving Global Outcomes (KDIGO) definition of AKI, a real-time automated AKI E-Alert system was established and implemented nationally across all areas of the National Health Service in Wales (Holmes et al., 2017). Since the implementation of this system, numerous publications have reported the outcome of AKI in patients identified using specific rule triggers (Table 1).

Patients with a small rise in serum creatinine (SCr) have previously been excluded from studies reporting the morbidity and mortality post AKI, on the basis that they are insignificant clinically and may be related to normal variations in biochemical reporting. These patients have a small rise in creatinine that do not fulfill the criteria for AKI and are therefore flagged as having suspected AKI or 'SAKI' in the electronic system. However, published data suggests that small rises in SCr may also lead to adverse outcomes (Kork et al., 2015; Lassnigg et al., 2004; Newsome et al., 2008; Praught and Shlipak, 2005). In particular, it has been reported that even a minimal increase in SCr is associated with a substantial decrease in survival in patients following cardiac surgery (Lassnigg et al., 2004). Therefore, we aimed to report renal and mortality outcomes in a cohort of patients who have small rises in SCr, that do not fulfil the criteria of AKI and that do not trigger the 'traditional' AKI Rules, and have compared outcomes with patients identified using Rules 1-4. For the purpose of this study, we have defined our patient cohort as suspected AKI or 'SAKI'.