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P075 -Five years on: The impact of introduction of electronic acute kidney injury alert (e-alert) and management pathway on patient care

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Background

In 2013, a baseline audit assessed our hospital's performance in diagnosing and managing patients with acute kidney injury (AKI). Following this, an electronic alert (e-alert) system, based on NHS England e-alerts algorithms (changes in serum creatinine), was introduced alerting clinicians of the possibility of AKI. At the same time, a hospital-wide AKI management pathway was introduced to improve management of AKI by non-specialists. A repeat audit has been conducted to assess the impact of this e-alert and AKI management pathway.

Methods

We obtained all AKI e-alerts from the month of May 2018 and after removing duplicates, a random sample of case notes was selected for review. Data extracted on pre-designed proforma included times of e-alert generation, first medical reviews, consultant review, information on specific tasks related to AKI assessment and management. Findings were compared to those obtained from 2013 audit.

Results

The cohort of 99 patients included in the final audit consisted of 55 patients from 2013 and 44 from 2018. Baseline characteristics are presented in table 1. Patients from 2018 were younger compared to the 2013 cohort (mean age 73 vs 76 years), and had a higher proportion of those with stage 3 AKIs (25 vs 15%).

The recognition of AKI, as documented in the case notes, improved from 15 to 43% between 2013 and 2018. The median time from the reporting of e-alerts to first medical review (where review time was documented) improved by 17 minutes (3h 47m in 2018 vs 4h 04 min in 2013); time of medical review was not documented in 22% of cases. Similarly, time of first consultant review following the reporting of e-alerts was not documented in 38% of cases. Where documented, it showed a lengthening of this interval by 4h and 37min (20h 29min in 2018 vs 15h 15min in 2013). The AKI risk assessment section, which is part of the admissions clerking booklet at our Trust, was only completed in 1% of all cases.

The relative changes in the performance of the most important assessment and management tasks between 2013 and 2018 are presented in figure 1. Please note that these tasks all relate to the first medical review only.

All AKI assessment tasks, that were audited, were completed more frequently by the first reviewer in 2018 indicating an improvement relative to 2013 (see figure 1a). The completion of AKI management tasks either showed very small improvement (correction of hypovolaemia, addressing/investigating obstruction, review of nephrotoxins, renal referrals) or did not improve at all (requesting of further biochemical tests, addressing possible sepsis, stopping of diuretics) (figure 1b).

Conclusions

The introduction of e-alerts and AKI management pathway at our hospital has resulted in improved recognition rates of AKI associated with earlier medical reviews and improvements in the initial patient

assessment. We have identified areas to build on in the future; in particular, targeted improvements in the early management of AKI by the first medical reviewer, who can often be a newly qualified doctor, may help improve AKI outcomes.