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P073 -Intervention at multiple stages in patient pathways lead to significant improvement in clinical outcomes in Acute Kidney Injury (AKI)

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Background:

Acute Kidney Injury (AKI) is associated with increased morbidity and mortality. During the years 2016, 2017 and 2018 we conducted an audit to investigate the management and outcomes of patients in our hospital who presented with or developed AKI-3. In 2016, we demonstrated a high incidence of mortality and morbidity in keeping with national trends. We proactively introduced interventions to aide early recognition and management of AKI. These interventions included intensive education for clinical staff in the community and hospitals, the launch of a nephrology outreach service in our hospital delivering in-patient and out-patient care (include acute access OP appointments) and an online HealthPathways tool for AKI in primary care.

This study aims to scrutinize any changes in outcomes since interventions were delivered.

Methods: Data was gathered by interrogating the regional pathology database for all patients developing AKI 3 during the periods of 1st October 16 – 31st December 2016 and subsequently from 1st October 2017 – 31st December 2017 and 1st October 2018 – 31st December 2018. The inclusion criterion was diagnosis of AKI-3 at presentation or during hospital stay. The exclusion criteria included paediatric patients and those under palliative care and on renal replacement therapy. We recorded multiple parameters including demographic data, co-morbidities, place of development of AKI (Community or Hospital), use of ACE-I/ARB/Diuretics/NSAID, baseline creatinine, admission creatinine and creatinine on discharge, Inpatient days, ITU stay, requirement for renal replacement therapy and mortality.

Results

We demonstrate a 17% sustained reduction year on year in the development of AKI-3 during the study period (82 vs 68 vs 58 cases) additionally; we demonstrate a reduction in the development of AKI-3 in hospital. Significantly, the overall mortality rates that had remained at 30.88% during the period of 2016 and 31.7% during 2017 reduced to 18% in 2018. The overall hospital stay did not change (16.1 days vs 16.2 days vs 16.4 days).

Discussion

In conclusion, we demonstrate a significant improvement in the incidence of AKI-3 and the mortality associated with AKI-3. Our data suggests that there is early recognition of AKI. Our data suggests that simple interventions at multiple stages of the patient pathway can lead to significant improvement in clinical outcomes. These interventions are easily replicable in other hospitals and we aim to continue to monitor the impact of these on-going interventions.