

Establishing mortality associated with AKI in a DGH and then trying to do something about it- introduction and audit of the AKI7 care bundle

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Introduction

Acute kidney injury (AKI) is a prevalent and treatable contributor to inpatient mortality. Simple management steps for AKI are frequently omitted or delayed in patient care due to its insidious onset and lack of symptoms. The NCEPOD report in 2009 found that only 50% of patients with AKI received good care. One response to this has been increased use across trusts of the electronic medical record for recognition and monitoring of AKI. Such systems also enable collection of reproducible datasets for audit as well as a platform for prompting the use of best practice guidelines.

We sought to establish mortality trends for patients with AKI and to audit the introduction of an electronic alert system and order set proforma for AKI: the AKI7 care bundle.

Methods

We collated data from all inpatients in West Suffolk Hospital (WSH) flagged as developing AKI by the recording system 'eCare' over a 2-year period and present a mortality analysis for this cohort. Data was collected retrospectively from eCare and statistical analysis conducted in 'R'.

Results

Of 3527 individuals who developed AKI over a 2 year period in WSH; 79% did not progress beyond AKI stage 1, 13% stage 2 and 8% stage 3, the mean age was 74 years and mean length of stay 13 days. Across all stages of AKI, 75% were investigated with urinalysis, 94% received fluid balance monitoring, 5% were investigated with renal tract US and 58% were referred to a nephrologist for specialist input. Mortality analysis for this same cohort revealed an association between survival at 60 days and use of urinalysis $p < 0.001$, fluid balance monitoring $p < 0.001$ and investigation with renal tract US $p < 0.001$. The 1 year mortality associated with AKI increased significantly with severity; 29% for AKI stage 1, 51% for AKI stage 2 and 65% for AKI stage 3 (Figure.1). The all cause 1 year mortality for all stages of AKI combined was 39.1%. Following launch of the AKI7 care bundle we found that use of the document template promoted requests for renal tract US (20% versus 5%), urinalysis (83% versus 75%) and requests for input by renal physicians (75% versus 65%).

Conclusions

The AKI7 care bundle improves clinician awareness of AKI and promotes the use of important steps in AKI management. Since mortality increases with AKI stage, management targeted to ameliorate progression of AKI is vital and can be supported by well designed electronic care bundles. The association of improved survival with fluid balance monitoring and investigations for AKI further supports measures to promote the use of these steps. We intend to encourage use of the AKI7 care bundle during induction for junior doctors coupled with distribution of cards as an aide-memoire.