

# **Reduction of in-hospital AKI incidence using a multidisciplinary model**

## **Morlidge C, Marshall C, Mathavakkannan S, Findlay A and Berresford K**

### **Introduction**

AKI occurs in 18% of all hospital admissions, in a range of settings where acutely unwell patients are managed. 65% of AKI starts in the community

- 33% of AKI cases are inadequately investigated and managed
- In the UK up to 100,000 deaths each year in hospital are associated with acute kidney injury. Up to 30% could be prevented with the right care and treatment
- In hospital acute kidney injury (AKI) is associated with poor survival regardless of stage. An in house audit outcome of 50% mortality at 12 months is supported by published data

### **Objective**

A multidisciplinary AKI team comprising of nurse specialist, nephrologist and specialist renal pharmacist was established to reduce in-hospital AKI incidence. By reviewing patients with deteriorating renal function, regardless of stage, we hope to improve patient outcome by reducing the progression of AKI stage 1-2-3. Data collected on the patients reviewed will be used to identify areas for improvement in the management of inpatients with AKI within our 720 bedded district general hospital.

### **Methods**

A specialist nurse interrogated daily AKI e-alerts and prioritized deteriorating AKI above severity. In February 2016, a daily working week ward round to review patients with deteriorating AKI was started. This consisted of a full time AKI specialist nurse and twice weekly multidisciplinary ward round strengthened by a senior renal pharmacist review to optimise therapeutic care of AKI patients.

All AKI e-alerts were staged along KDIGO guidelines. In-hospital AKI was defined as an e-alert generated >24 hours post admission.

Data was collected on all patients reviewed. This included adherence to trust/ NICE Guidelines, co-morbidities and medications.

### **Results**

570 inpatients were reviewed by the team between February and July 2016 .The majority (57%) of these were stage 1 AKI.

- 36% of patients reviewed had acquired an AKI whilst in hospital
- 33% of patients seen had been taking an ACEi/ARB, with 17% still taking them
- 23% of patients seen had recently received gentamicin

### **Conclusion**

The impact and use of medications with nephrotoxic potential have been identified as an area for improvement. In collaboration with cardiology a STOP Policy was introduced to allow the AKI specialist nurse and non-prescribing ward pharmacists to stop certain nephrotoxic medications. Sick day guidance has been distributed via mail to known renal patients. Developed by the renal pharmacist these patient information leaflets and cards will also be issued, when appropriate, to inpatients reviewed by the AKI team. Collaboration with the diabetes team is ongoing to ensure to consistency of information and interventions for our shared patients.

Data regarding gentamicin is to be presented to microbiology to initiate discussion about its use and current trust policies.

All of this supported by a continued focus on teaching and raising the profile of AKI. Each member of the team is active in formal teaching of the MDT and our daily working week ward rounds provide an excellent forum for ad hoc teaching.

