

The Diagnosis and Management of Acute Kidney Injury; a Complete Audit Cycle

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Introduction

Acute Kidney injury (AKI) is common and is present in 1 in 6 of all patients admitted to hospital. 30% of these cases could be preventable. The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) found that 50% of patients who died from acute kidney injury received inadequate care and an estimated 12,000 lives could be saved each year. In response to these findings NICE produced guidelines on how to diagnose and manage patients with AKI.

1,000 hospital patients die each month from avoidable kidney problems **theguardian**

Aim

Does the Royal Surrey County Hospital comply with the new NICE guidelines (CG 139) for the identification and management of Acute Kidney Injury?

Methodology

We identified those in AKI by their renal function results on Winpath and retrospectively reviewed their case notes. We specifically looked at whether the correct diagnosis was made, the associated risk factors and if the correct investigations and management strategies were implemented. Data was collected on 20 medical and 20 surgical patients in both audit rounds. Interventions included teaching to junior doctors, distributing alert cards and posters to each ward.

Royal Surrey County Hospital AKI Re-Audit January - February 2015			
DATE:		WARD:	
PATIENT NUMBER:		DoB:	
RISK FACTORS			
PMHx AKI		Hypovolaemia	
Age > 65 years		Cognitive impairment	
CKD (eGFR < 60)		Contrast agent	
Heart failure		Sepsis / J EWS	
Hypertension		Oliguria (< 0.5ml/kg/hr)	
Diabetes mellitus		Urological obstruction	
Liver disease		Intraoperative surgery	
NEPHROTOXIC DRUGS (within past week)			
NSAIDS:	stop y/n	ARB:	stop y/n
Gentamicin (dose):	stop y/n	Diuretics:	stop y/n
ACEi:	stop y/n	Metformin (dose):	stop y/n
INVESTIGATIONS			
CREATININE - On admission:	Baseline:	Peak:	
POTASSIUM - On admission:	Baseline:	Peak:	
UREA - On admission:	Baseline:	Peak:	
eGFR - On admission:	Baseline:	Peak:	
MANAGEMENT			
Diagnosis recorded in notes:			
Identify Cause (recorded in notes)			
Treat Hyperkalaemia:			
Assess and correct volume status:			
Monitor Urine Output: (?catheter)			
ABG / VBG: (?acidosis)			
Renal USS within 24hrs (if cause not identified)			
Referral to Nephrologist within 24 hrs (if cause not identified)			

References

1. Acute Kidney Injury: Adding insult to injury; National Confidential Enquiry into Patient Outcome and Death (NCEPOD) 2009 <http://www.ncepod.org.uk/2009aki.htm>

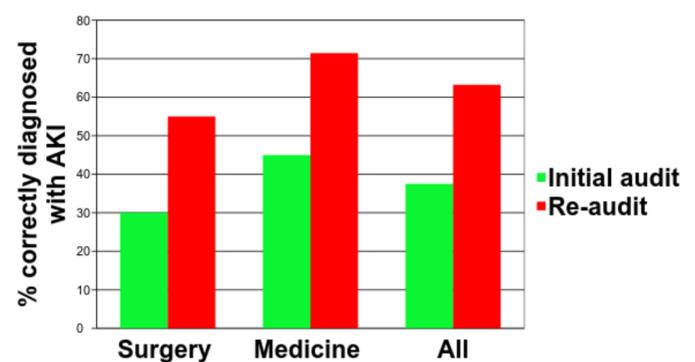
2. Acute Kidney Injury: Prevention, detection and management of acute kidney injury up to the point of renal replacement therapy. Clinical Guidance 169. National Institute of Clinical Excellence (NICE) 2013 <https://www.nice.org.uk/guidance/cg169>

Results

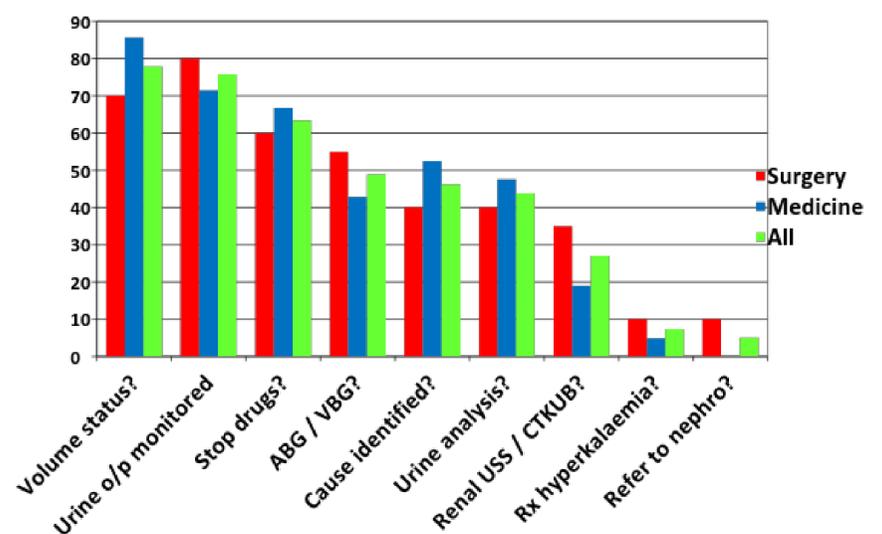
The initial audit showed that only 38% of patients with AKI were correctly diagnosed. However after the intervention this increased to 63%.

95% of patients had three or more risk factors. The most common risk factors included being aged over 65, taking nephrotoxic drugs and having hypertension. We proved we were better at providing the appropriate management when the diagnosis was actually made.

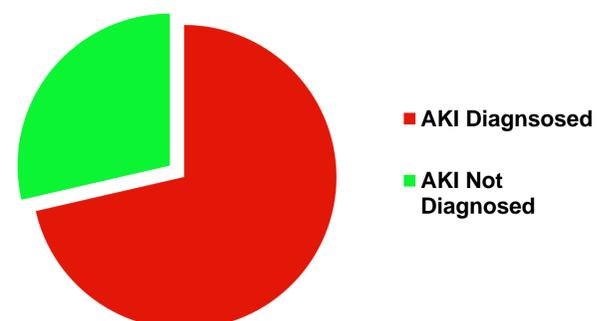
AKI Diagnosis: Before and After Intervention



% of each Management Strategy Implemented



The Proportion of Management Strategies Implemented in the Re-Audit



Conclusion

In conclusion the intervention has been a success. The Royal Surrey has increased the rate of diagnosis of AKI from 38% to 63%. Once AKI is correctly diagnosed, it makes way for a better management plan. Nevertheless there is still room for improvement. Future considerations include a computerised warning system, focused drug chart reviews, an accessible guide to AKI management and a proforma to identify those at risk with the aim of prevention.