

Improving Acute Kidney Injury Management

Sabina Karimi, Gabor Cserep, David Gannon and Kim Sinnamon

Renal Unit and Emergency Assessment Unit, Colchester Hospital University NHS Foundation Trust

Introduction

Acute kidney injury (AKI) occurs in approximately 15% of adults admitted to hospital in developed countries with the elderly being particularly affected.

Mortality associated with severe AKI is 30-40% and up to 80% with multi-organ failure requiring ITU admission.

NCEPOD report in 2009 highlighted inadequacies in the recognition and management of this condition. An AKI audit was carried out at Colchester Hospital University NHS Foundation Trust (CHUFT) in 2010 (data collected from 1st September 2009 to 1st December 2009). Our results mirrored the NCEPOD findings and highlighted various areas of improvement. As a result, a guideline for the management of AKI was implemented in May 2012 and emergency 24 hours ultrasound service was made available.

Aim

To review the management of patients admitted with AKI after implementation of the guideline in 2012 at CHUFT and compare these findings with those from 2009 audit

Methodology

A retrospective audit of patients (aged over 16) admitted to EAU at CHUFT with AKI over three months period (1st September to 30th November 2012)

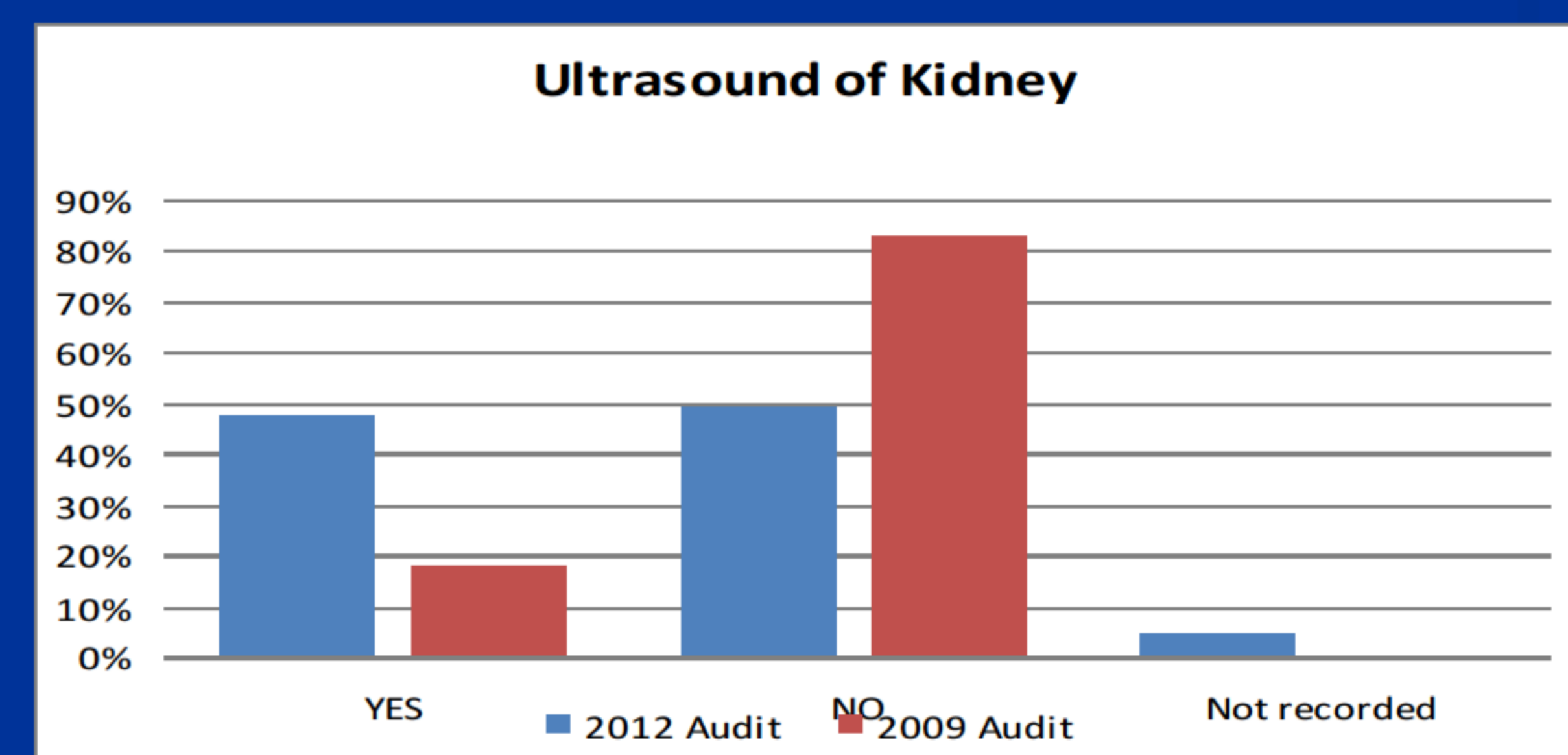
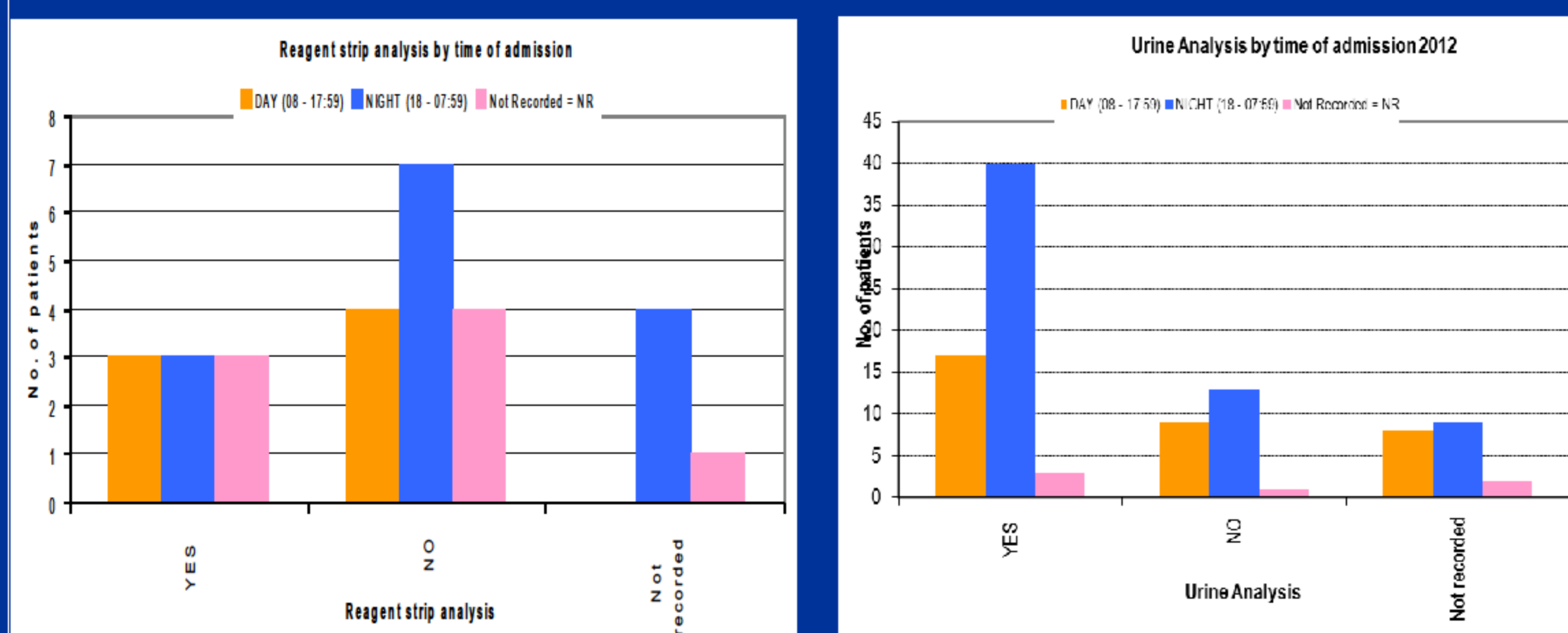
- ICD N17.9 and N18.9 codes from discharge summaries were used to identify patients with AKI and Acute on Chronic Kidney Disease
- Patients receiving renal replacement therapy and those who were admitted for palliative care and death on admission were excluded.
- Variables such as age, gender, day and time of admission, reagent-strip urine analysis, renal function and electrolytes, nephrotoxic drugs, ultrasound of renal tract, referral to nephrology were recorded.

Results

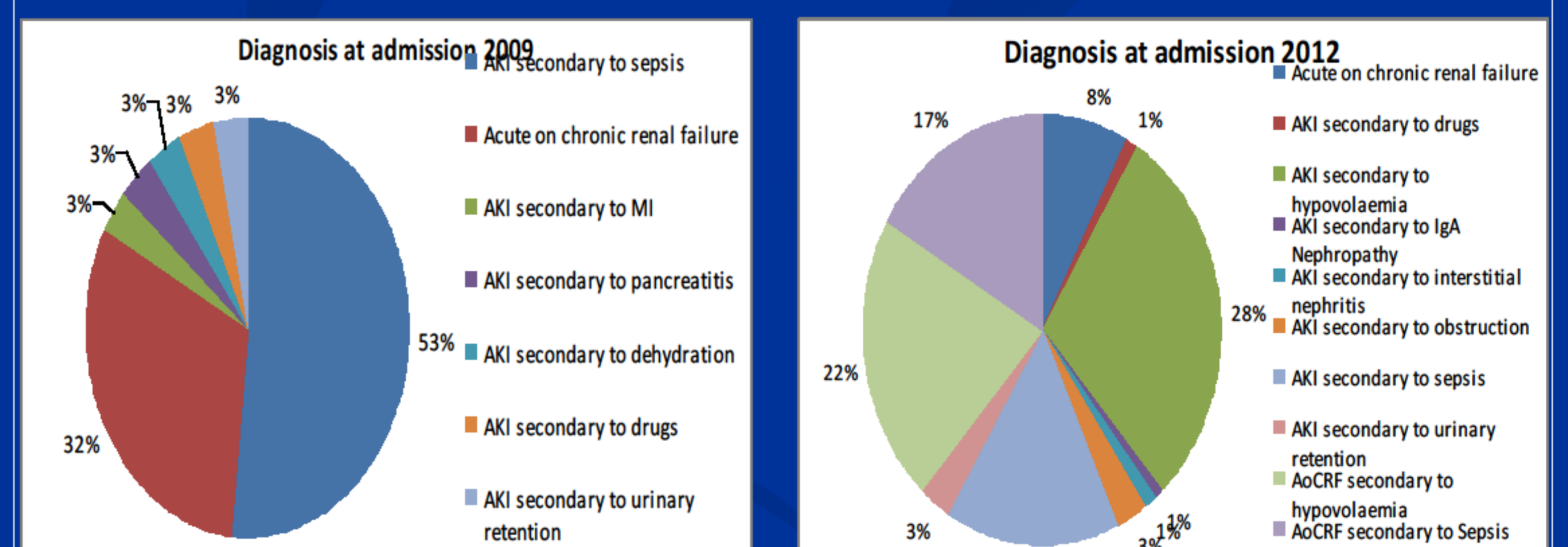
In 2009 audit 29 patients were included in the data collection compared with 102 patients in 2012. No significant age or gender difference was noted between the audits. Renal function and electrolytes were checked in 100% of the patients in both years.

Reagent strip analysis 2009			Reagent strip analysis 2012		
YES	9	31%	YES	60	59%
NO	15	52%	NO	23	23%
Not recorded	5	17%	Not recorded	19	19%
Not needed	0	0%	Not needed	0	0%
TOTAL	29	100%	TOTAL	102	100%

In 2009 reagent-strip urine analysis was carried out in 31% of patients and by 2012 this had increased to 59%. Similar improvement was noted in urine microscopy and culture (34% in 2009 and 55% in 2012).



Significant improvement noted in renal imaging: 17% in 2009 vs. 48% in 2012.



In 2009 audit nephrotoxic drugs were stopped (or there were no medications requiring discontinuation) in 73% of patients in comparison to 84% of patients in 2012.

Conclusion

Recognition of AKI appears to be improving as evidenced by the increased number of patients coded for this condition in 2012. Investigation also appears to be improving with reagent strip urine analysis, urine culture and ultrasound of the renal tract occurring much more frequently in 2012. However there are areas which still require improvement. We aim to implement an AKI risk assessment tool and educational sessions for medical and nursing staff to raise awareness of AKI further as well as a new referral form with a reminder for basic AKI work-up. We plan to re-audit these data in the future after the new measures implemented

References

- 1.Adding insult to Injury: A review of the care of patients who died in hospital with a primary diagnosis of acute kidney injury (Acute renal failure). 2009. National Confidential Enquiry into Patient Outcome and death. London http://www.ncepod.org.uk/2009report1/Downloads/AKI_report.pdf
- 2.Emergency Admissions: A journey in the right direction? 2007. National Confidential Enquiry into Patient Outcome and Death. London. <http://www.ncepod.org.uk/reports.htm>

