Acute Kidney Injury - Improvement in Recognition and Management of AKI in Acute Medical Admissions

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Background
Acute kidney injury (AKI) is a common condition which carries significant mortality and cost. AKI imposes an estimated annual burden to the NHS in excess of £500 million. In 2009, the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report identified a shortfall in the recognition and management of AKI in hospitals across the UK, with only 50% of patients receiving good care.

Initial Audit
Primary data collected in 2009 highlighted a deficit in our management of AKI patients in line with national figures. After a series of interventions within our Emergency Admissions Unit (EAU), we completed the audit cycle to review our parameters for management of AKI against existing NCEPOD standards.

Aims
To review the effectiveness of our interventions in optimising recognition and management of AKI in acute medical admissions over a four year period.

Methods
- Retrospective audit of 100 consecutive adult patients admitted to EAU in May/June 2013
- Proforma created in line with recommended NCEPOD parameters
- Results compared with audit data collected in three previous cycles from May 2009 to September 2010

Results
- 18 patients (18%) developed an AKI
- 25.9% improvement in recognition since 2009
- All patients had baseline and repeat U+Es (100%)
- Linear increase in urine dipstick + fluid balance parameters
- Sustained improvement in prescription of IV fluids (87.5%) and cessation of nephrotoxic medications (83.3%)

Table 1: Comparison of Audited NCEPOD Parameters

<table>
<thead>
<tr>
<th></th>
<th>June 2013</th>
<th>September 2010</th>
<th>August 2009</th>
<th>May 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of patients with Acute Kidney Injury</td>
<td>18 (18%)</td>
<td>22 (22%)</td>
<td>15 (15%)</td>
<td>22 (11%)</td>
</tr>
<tr>
<td>Percentage of patients recognised as AKI</td>
<td>88.9%</td>
<td>73%</td>
<td>73%</td>
<td>63%</td>
</tr>
<tr>
<td>U&amp;E's ordered and done at 24 hrs</td>
<td>100%</td>
<td>68%</td>
<td>80%</td>
<td>59%</td>
</tr>
<tr>
<td>Urine dipstick ordered and done at 24 hrs</td>
<td>53.3%</td>
<td>18%</td>
<td>27%</td>
<td>22%</td>
</tr>
<tr>
<td>IV fluid prescribed (if appropriate)</td>
<td>87.5%</td>
<td>95%</td>
<td>73%</td>
<td>68%</td>
</tr>
<tr>
<td>Fluid balance recorded</td>
<td>44.4%</td>
<td>36%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Nephrotoxic drugs stopped</td>
<td>83.3%</td>
<td>85%</td>
<td>40%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Figure 1: Percentage Comparison of AKI Parameters

Conclusion
We have demonstrated consistent improvements in our management of AKI patients following a period of intervention, which included earlier consultant involvement, junior doctor education and in-house training. Our patients have benefitted from robust sustainable improvements in our EAU AKI management strategies. We are planning further work in improving the charting of fluid balance and urine dipstick measures, as we still have areas for improvement.