Abstract – poster presentation

Should we use Salbutamol in acute hyperkalaemia?

**Problem**

Salbutamol features as an adjunct in treatment of acute hyperkalaemia in guidelines and review articles but the dose (2.5-20mg) and route (nebulised or intravenous) varies. When treating acute hyperkalaemia caused by a variety of aetiologies it is hard to be sure how much and how to give it.

**Purpose**

To examine the evidence for the safety and effectiveness of Salbutamol as an adjunct to acute hyperkalaemia management at different doses and routes of administration.

**Design**

A systematic literature review with critical appraisal of papers.

Inclusion - Original research article using MDI, IV or nebulised salbutamol in adult patients with hyperkalaemia in combination with other drugs or on its own.

Exclusion - Non-human, paediatric, physiological models/ normal potassium at baseline

**Findings**

13 original papers analysed. 6/13 studies used IV salbutamol, 6/13 used nebulised salbutamol and 1/13 used salbutamol administered via MDI. Internal validity was poor – all single centre studies with small numbers and significant sources of bias. Vague inclusion criteria and only 6/13 were randomised and even when randomisation had occurred it is not clearly described. Blinding occurred in 2/13. Limitations of generalisability and applicability – most studies are on Haemodialysis patients with chronic hyperkalaemia. These patients not necessarily representative of those presenting with rapidly developing hyperkalaemia. Outcome measures are predominantly lowering of serum potassium and do not look at clinically important end points – arrhythmia or death. No studies demonstrated harm or death and no case reports of harm caused by salbutamol in this context were found.

**Conclusion**

The evidence for this well established point of medical dogma is of low quality and poor generalisability to patients presenting with acute hyperkalaemia especially those with AKI or acute hyperkalaemia for other reasons.

**Relevance**

In the acute setting the use of salbutamol as an adjunct to hyperkalaemia management has limited evidence for either good or harm. Further studies are needed and case reports of Salbutamol use in this setting would be helpful to further elucidate its appropriate use.