

Title: Non-oliguric hyperkalaemia			
Manual Classification: Service specific NICU Medical	Effective Date: 1 November 2015	Expiry Date: 1 November 2018	Keywords: <i>(supply 5 keywords - search engine)</i> Non-oliguric Hyperkalaemia
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1. Purpose of procedure:

To identify and treat hyperkalaemia

2. Definitions:

 Serum K⁺ value > 6.5 mmol/L (non-haemolysed).

3. Pathophysiology:

 Potassium shift from intracellular to extracellular space, secondary to immature function of Na⁺ / K⁺ ATPase.

4. Management:

1. Treat if serum K⁺ >7 mmol/L or if ECG changes in the presence of serum K⁺ <7 mmol/L
2. Stop potassium intake (i.e. TPN)
3. Calcium gluconate 10% - 0.5 – 1 mL/kg IV over 10 minutes
4. Insulin plus glucose - 0.1 u/kg short-activity insulin plus 2 mL/kg of 50% dextrose over 10 min. Followed by insulin infusion (0.2 u/kg/hr) plus 2 mL/kg/hr of 25% dextrose.
Adjust dextrose infusion (rather than insulin infusion) to maintain euglycaemia.
5. Correct acidosis - Treat cause, rather than bicarbonate administration
6. Inhaled salbutamol - 400 mcg / 2 hourly
7. Peritoneal dialysis.

5. Comments:

1. Diuretics – unstudied. Loop diuretics (e.g. Frusemide) have a kaliuretic effect.
2. Ion exchange resins – ineffective and worsen mortality. Should not be used.
3. Exchange transfusion – Has been used, but may worsen the hyperkalaemia because of the increased potassium in the donor blood.

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4. Salbutamol – Few reports on intravenous use (4-5 µg/kg over 20 mins). Inhaled salbutamol (400mcg/2 hourly) has been used. Consider using prior to peritoneal dialysis (see above).

Reference:

- Mildenberger E., Versmold H.T. Pathogenesis and therapy of non-oliguric hyperkalemia of the premature infant. Eur. J. Pediatr, 161: 415-422, 2002.
- Singh B.S. et al. Efficacy of albuterol inhalation in treatment of hyperkalemia in premature neonates. J. Pediatr, 141: 16-20, 2002.

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