ADDENDUM

SOCIETY FOR ENDOCRINOLOGY
EMERGENCY ENDOCRINE GUIDANCE

Emergency management of acute hypocalcaemia in adult patients

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In this addendum to the above paper, the Society for Endocrinology Clinical Committee and the original authors provide additional advice on the dose equivalence of calcium gluconate and calcium chloride.

The ‘Severe hypocalcaemia’ section, which appeared in the September 2016 issue of Endocrine Connections (volume 5, page G8, https://doi.org/10.1530/EC-16-0056) reads as follows:

Severe hypocalcaemia

Severe hypocalcaemia: serum calcium <1.9 mmol/L and/or symptomatic at any level below reference range.

• This is a medical emergency
• Administer i.v. calcium gluconate
• Initially, give 10–20 mL 10% calcium gluconate in 50–100 mL of 5% dextrose i.v. over 10 min with ECG monitoring. This can be repeated until the patient is asymptomatic. It should be followed up with a calcium gluconate infusion as follows:
  – Dilute 100 mL of 10% calcium gluconate (10 vials) in 1 L of Normal saline or 5% dextrose and infuse at 50–100 mL/h. (Calcium chloride can be used as an alternative to calcium gluconate, but it is more irritant to veins and should only be given via a central line)
  – Titrate the rate of infusion to achieve normocalcaemia and continue until treatment of the underlying cause has taken effect

The Society for Endocrinology Clinical Committee and the original authors now provide this additional advice on the dose equivalence of calcium gluconate and calcium chloride, as follows:

Each 10 mL vial of 10% calcium gluconate contains 2.2 mmol of calcium. Calcium chloride for i.v. administration is available in a number of preparations including, commonly, 10 mL of 7.35% calcium chloride (which contains 5 mmol of calcium) and 5 mL of 14.7% calcium chloride (which also contains 5 mmol of calcium). Great care should be taken since other preparations are also available. If using calcium chloride in place of calcium gluconate, 4.4 mL of 7.35% calcium chloride or 2.2 mL of 14.7% calcium chloride for i.v. administration should therefore be used as equivalent to 10 mL of 10% calcium gluconate. If other calcium chloride preparations are used, the required volume should be calculated, aiming to achieve 2.2–4.4 mmol i.v. loading bolus followed by a 1.1–2.2 mmol/h maintenance infusion.