Guidelines for the Use of Calcium Gluconate 10%

(1ml = 0.46 mEq elemental Ca = 9.3 mg elemental Ca)

Recommended Neonatal Dose, Route, and Interval

1. Maintenance IV drip: 2 - 4 mEq/kg/day
2. Treatment of symptomatic hypocalcemia - acute treatment: 0.5-1 mEq/kg/dose (1 to 2 ml/kg/dose, equivalent to 10 to 20 mg/kg elemental calcium) IV over 10 to 30 minutes x1 while monitoring for bradycardia (stop infusion if heart rate is less than 100 beats/minute), followed by 2 mEq/kg/day (4 ml/kg/dose) continuous infusion; gradually decrease dose over 3 days
3. Treatment for hyperkalemia with significant EKG changes: 0.5 mEq/kg/dose (~1 ml/kg/dose) over IV 5-10 minutes
4. Exchange Transfusion: If signs of citrate toxicity occur, give 100 mg (1ml) IV for each 100 ml of blood exchanged.

Do not give intra-arterially

Chief Indications

1. Symptomatic hypocalcemia
2. Treatment of acute hyperkalemia with EKG changes.
3. Calcium blocker overdose.
4. Hypomagnesemia (usually associated with hypocalcemia)

Possible Adverse Reactions

1. Do not give intra-arterially. Bolus infusions by UAC have been associated with intestinal bleeding and lower extremity tissue necrosis.
2. Rapid IV administration is associated with bradycardia, hypotension, cardiac arrhythmias or cardiac standstill. **STOP infusion if heart rate drops below 100 bpm.**
3. Renal calculi
4. Tetany
5. Cutaneous necrosis or calcium deposition occurs with extravasation

Contraindications & Precautions

1. **CAUTION** use with digitalized neonates - can precipitate digitalis toxicity
2. Do not administer intra-cardiac.

Nursing Implications

1. Do not mix with bicarbonate or phosphate solutions
2. Monitor for bradycardia during IV bolus infusions
3. Closely monitor IV infusion site for extravasation, do not use scalp veins
4. Observe IV tubing for precipitate
5. Monitor serum Ca levels closely - if < 7, check ionized
6. Continuous EKG monitoring should be done during administration of IV bolus

References:
1. Neofax 2010

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