

Southern Illinois Regional EMS System

JJ-6 CALCIUM CHLORIDE

1. Class:
 - 1.1. Electrolyte:
2. Description:
 - 2.1. Calcium is an essential component for functional integrity of the nervous and muscular system, for normal cardiac contractility, and the coagulation of blood. Calcium chloride contains 27.2% elemental calcium. Calcium chloride is a hypertonic solution and should be administered only IV (slowly, not exceeding 1ml/minute).
3. Onset and Duration:
 - 3.1. Onset: 5 – 15 minutes.
 - 3.2. Duration: Dose dependent:
 - 3.2.1. Effects may persist for 4 hours after IV administration.
4. Indications:
 - 4.1. Hyperkalemia:
 - 4.1.1. Except when associated with digitalis toxicity.
 - 4.2. Hypocalcemia:
 - 4.2.1. e.g., after multiple blood transfusions.
 - 4.3. Calcium channel blocker toxicity.
 - 4.4. Hypermagnesemia.
 - 4.5. To prevent hypotensive effects of calcium channel blocking agents (IV Verapamil and diltiazem).
5. Contraindications:
 - 5.1. Ventricular fibrillation during cardiac resuscitation.
 - 5.2. In patients with digitalis toxicity.
 - 5.3. Hypercalcemia.
 - 5.4. Renal or cardiac disease.
6. Adverse Reactions:
 - 6.1. Bradycardia.
 - 6.2. Hypotension.
 - 6.3. Metallic taste.
 - 6.4. Severe local necrosis and sloughing following intramuscular use or IV infiltration.
7. Drug Interactions:
 - 7.1. Calcium may worsen dysrhythmias caused by digitalis.
 - 7.2. Calcium may antagonize the peripheral vasodilatory effects of calcium channel blockers.
8. How Supplied:
 - 8.1. 10% solution in 10ml (100mg/ml) ampules, vials, and prefilled syringes.

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(continued)

9. Dosage and Administration:
 - 9.1. Hyperkalemia, Hypocalcemia, Hypermagnesemia, and Calcium Channel Blocker Overdose:
 - 9.1.1. Adult:
 - 9.1.1.1. 8 – 16mg/kg (usually 5 – 10ml) of 10% solution slow IV:
 - 9.1.1.1.1. May be repeated in 10 minutes if needed.
 - 9.1.2. Pediatric:
 - 9.1.2.1. 20mg/kg (0.2ml/kg) of 10% solution slow IV/IO push:
 - 9.1.2.1.1. May be repeated in 10 minutes for documented conditions.
10. Special Considerations:
 - 10.1. Pregnancy Category C.
 - 10.2. Calcium may produce vasospasm in coronary and cerebral arteries.
 - 10.3. Do not use routinely in cardiac arrest.
 - 10.4. Hypertension and bradycardia may occur with rapid administration.
 - 10.5. Monitor heart rate during administration.