

9. CALCIUM CHLORIDE (10% SOLUTION)

a) Pharmacology

- (1) Increase cardiac contractile state and ventricular automaticity
- (2) Is useful in reversing cardiac arrhythmias due to hyperkalemia (often seen in renal dialysis patients)

b) Pharmacokinetics

Rapid onset of action with IV administration

c) Indications

- (1) Hyperkalemia
- (2) Hypocalcemia
- (3) To treat adverse effects caused by calcium channel blocker overdose
- (4) Hypotension secondary to diltiazem administration
- (5) Respiratory depression, decreased reflexes, flaccid paralysis, and apnea following magnesium sulfate administration

d) Contraindications

- (1) Not indicated in cardiac arrest except when hyperkalemia, hypocalcemia, or calcium channel toxicity is highly suspected
- (2) Patient currently taking digoxin with suspected calcium channel blocker overdose

e) Adverse Effects

- (1) Bradycardia may occur with rapid injection.
- (2) Syncope, cardiac arrest, arrhythmia, bradycardia

f) Precautions

- (1) Use with caution on patients taking digitalis, as calcium may increase ventricular irritability and precipitate digitalis toxicity.
- (2) If given with sodium bicarbonate, calcium will precipitate.
- (3) Calcium salts may produce coronary and cerebral artery spasm.

g) Dosage

(1) Adult: Administer 0.5–1 gram SLOW IVP over 10 minutes.

Maximum dose 1 gram

Administer 500 mg SLOW IVP for: hypotension following

diltiazem administration.

Respiratory depression, decreased reflexes, flaccid paralysis, and

apnea following magnesium sulfate administration

(2) Pediatric: Administer 20 mg/kg (0.2 mL/kg) SLOW IVP/IO (50 mg/min) Maximum dose 1 gram