

Calcium Gluconate – 20.081

CLASS A: Hyper K

CLASS B: Calcium channel blocker OD except in cardiac arrest, Hydrogen Fluoride exposure

PROTOCOLS USED IN: Hyperkalemia, Poisoning/Overdose, Hydrogen Fluoride

PHARMACOLOGY AND ACTIONS:

Calcium is the most common cation in the human body. The majority of the body stores of calcium are located in bone. It plays an important role in many physiologic functions and is essential for proper nerve and muscle function.

INDICATIONS:

- A. Hyperkalemia.
- B. Suspected Calcium Channel Blocker overdose.
- C. Hypotension prior to antidysrhythmic
- D. Hydrogen Fluoride over exposure

CONTRAINDICATIONS:

- A. **Hypercalcemia and hypercalciuria (hyperthyroidism, Vitamin D overdose, bone metastases).**
- B. **Patients on Digoxin.**

PRECAUTIONS:

- A. Extravasation of Calcium salts will cause necrosis of tissue. The IV should be secured and free blood return into the syringe should be checked 2-3 times during administration. If extravasation does occur, immediately stop administration.
- B. Administer slowly (no faster than 2ml/min) and stop if patient complains of distress. Inject using a small needle in a large vein.
- C. Calcium Gluconate will precipitate if mixed with Sodium Bicarbonate. Flush catheter completely before administering one medication after another.

SIDE EFFECTS AND NOTES:

- A. Rapid injection of Calcium Gluconate may cause vasodilatation, decreased blood pressure, bradycardia, cardiac arrhythmias, syncope and cardiac arrest.
- B. One vial of 10 ml Calcium Gluconate 10% contains 1 gram of calcium gluconate salt (= 93 mg elemental calcium or 4.6 mEq calcium or 2.3 mmol calcium)

ADULT DOSING:

Hyperkalemia, Calcium channel blocker overdose, Hypotension prior to antidysrhythmic -

1 gm slow IV/IO over 5 – 10 minutes. Use a proximal port.

Hydrogen Fluoride Overexposure – see protocol. Contact OLMC

PEDIATRIC DOSING:

Hyperkalemia, calcium channel blocker overdose -

0.5 ml/kg slow IV/IO over 5 – 10 minutes. Use a proximal port. Max dose 10 ml.