32. VERAPAMIL (Isoptin)
(CRT-I & Paramedic only)

Jurisdictional option only when approved by the State EMS Medical Director. Administration of verapamil requires medical consultation.

a) Pharmacology
  Calcium channel blocker

b) Pharmacokinetics
  (1) Inhibits the movement of calcium ions across cardiac muscle cells
  (2) Decreases conduction velocity and ventricular rate

c) Indications
  (1) Narrow complex symptomatic atrial fibrillation or atrial flutter

d) Contraindications
  (1) Hypotension below 90 mmHg, second or third degree heart block, hypersensitivity to the drug
  (2) Patient with history of Wolf-Parkinson-White syndrome
  (3) Ventricular tachycardia
  (4) Patients less than 18 years of age

e) Precautions
  Use cautiously in patients with renal failure, congestive heart failure or on beta blockers.

f) Adverse Effects
  (1) Hypotension (see Treatment of Overdose or Other Adverse Reactions)
  (2) Bradycardia
  (3) Vomiting
  (4) Nausea
  (5) Headache

g) Significant Interactions
  Congestive heart failure may result if used along with beta blockers.

h) Dosage

  (1) Adult:
    a) 2.5–10 mg slow IV over 2 minutes; if response is not adequate, repeat in 15 minutes with a dosage of 2.5–10 mg slow IV over 2 minutes with medical consultation.
  (2) Pediatric:
    Contraindicated for patients less than 18 years of age.

i) Overdose or Toxicity Presentation
Generally consists of exaggeration of side effects, including severe hypotension and symptomatic bradycardia

j) Treatment of Overdose or Other Adverse Reactions
(1) Give general supportive measures, monitor vitals, administer oxygen
(2) Hypotension:
    (a) If lungs are clear, administer fluid bolus 20 mL/kg of LR; titrate to a systolic blood pressure of 100 mmHg.
    (b) If rales are present, administer fluid bolus, maximum of 250 mL of LR. Titrate to a systolic of 100 mmHg.
    (c) Administer calcium chloride 500 mg SLOW IVP
(3) Bradycardia: Consider atropine (0.5–1 mg); if necessary, consider pacing

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