

Calcium channel blockers are used to manage hypertension, certain rate-related arrhythmias, prevent cerebral vasospasm and angina pectoris.

SYMPTOMS:

- a. Bradycardia
- b. Hypotension
- c. Decreased AV Nodal conduction
- d. Cardiogenic shock
- e. Hyperglycemia

ASSESSMENT and TREATMENT

ALL LEVELS

1. Assess ABCDs and, if indicated, expose and then cover to assure retention of body heat.
2. Obtain and monitor vital signs, including temperature.
3. Provide early airway protection; patients may have rapid mental status deterioration.
4. Obtain pertinent cardiovascular history or other prescribed medications for underlying disease.
5. Identify specific medication taken noting immediate release vs. sustained release, time of ingestion and quantity.
6. Repeat assessment frequently as these patients often have rapid deterioration with profound hypotension.

EMR-O; EMT-R

7. Check blood glucose level.
8. Monitor SpO<sub>2</sub>.

EMT-O

9. Acquire ETCO<sub>2</sub>.
10. Consider administration of activated charcoal without sorbitol.

AEMT-R

11. Consider IV fluid bolus normal saline 20ml/kg up to 2 liters.

AEMT-O

12. Consider IV fluid bolus lactated Ringer's 20ml/kg up to 2 liters if normal saline not administered.

INT-R

13. Acquire/interpret ETCO<sub>2</sub>.
14. Consider atropine sulfate [Adult; 1mg IV/IO every 1 to 5 minutes (max does of 3mg)]; [Pediatric: 0.03mg/kg IV/IO q 5 minutes (maximum dose of 3mg) for symptomatic bradycardia.

INT-O

15. Monitor ETCO<sub>2</sub> for respiratory decompensation.
16. If seizure, consider midazolam [Adult: 4mg IV/IO/IN; 10mg IM] [Pediatric: 0.1mg/kg IV/IO/IN; 0.25mg/kg IM] (benzodiazepine of choice).

PARA-R

17. Consider calcium gluconate [Adult: 3grams IV/IO push over 2 minutes; Pediatric: 60mg/kg, maximum dose 3grams IV/IO.]
18. Consider vasopressors after adequate fluid resuscitation for the hypotensive patient if atropine and calcium have failed in the symptomatic bradycardia patient.

Examples of calcium channel blockers:

- Amiodipine (Norvasc)
- Diltiazem (Cardizem, Tiazac)
- Felopine
- Isradipine
- Nicardipine
- Nifedipine (Adalat CC, Afeditab CR, Procardia)
- Nisoldipine (Sular)
- Verapamil (Calan, Verelan)