

CLASS: A

PROTOCOLS USED IN: Cardiac Dysrhythmias - Tachycardia

PHARMACOLOGY AND ACTIONS:

Adenosine is a naturally occurring nucleoside that has the ability to slow conduction through the AV node. Since most cases of PSVT involve AV nodal re-entry, Adenosine is capable of interrupting the AV nodal circuit and stopping the tachycardia, restoring normal sinus rhythm. It is eliminated from the circulation rapidly and has a half-life in the blood of less than ten seconds.

INDICATIONS:

To convert PSVT to a normal sinus rhythm, including PSVT that is associated with accessory bypass tracts (e.g. Wolff-Parkinson-White Syndrome).

CONTRAINDICATIONS:

- A. Second or third degree heart block.
- B. Sick Sinus Syndrome
- C. Known hypersensitivity

PRECAUTIONS:

- A. When doses larger than 12 mg are given by injection there may be a decrease in blood pressure secondary to a decrease in vascular resistance.
- B. The effects of Adenosine are antagonized by methylxanthines such as Theophylline and caffeine. Larger doses of Adenosine may be required.
- C. Adenosine effects are potentiated by dipyridamole (Persantine) resulting in prolonged asystole.
- D. In the presence of carbamazepine (Tegretol), high degree heart block may occur.
- E. Adenosine is not effective in converting atrial fibrillation, atrial flutter or ventricular tachycardia. May attempt Adenosine administration in monomorphic, wide complex tachycardia where SVT with aberrancy is suspected.
- F. All doses of adenosine should be reduced to one-half (50%) in the following clinical settings:
 - a. History of cardiac transplantation.
 - b. Patients who are on carbamazepine (Tegretol) and dipyridamole (Persantine).
 - c. Administration through any central line.

SIDE EFFECTS AND NOTES:

May cause facial flushing, shortness of breath, chest pressure, nausea, headache and lightheadedness.

ADULT DOSING: 6 mg rapid IV. May repeat with 12 mg IV x 2 if patient fails to convert after initial dose. Use a large proximal IV site with fluid bolus flush.

PEDIATRIC DOSING:

PSVT - 0.1 mg/kg rapid IV. May repeat with 0.2 mg/kg once if patient fails to convert after first dose. Use a large proximal IV site with fluid bolus flush. Max single dose correlates with adult doses.