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.