

Southern Illinois Regional EMS System

JJ-1 ADENOSINE (ADENOCARD)

Class:

- Endogenous nucleoside, miscellaneous antidysrhythmic.

Description:

- Adenosine slows supraventricular tachycardias by decreasing electrical conduction through the atrioventricular node without causing negative inotropic effects. It also acts directly on sinus pacemaker cells and vagal nerve terminals to decrease chronotropic (heart rate) activity.

Onset and Duration:

- Onset: Immediate.
- Duration: 10 Seconds.

Indications:

- First drug for most forms of narrow-complex paroxysmal supraventricular tachycardia and dysrhythmias associated with bypass tracts such as Wolff-Parkinson-White syndrome in adults and pediatric patients.

Contraindications:

- Second - or third - degree atrioventricular block or sick sinus syndrome.
- Hypersensitivity to adenosine.
- Atrial flutter, atrial fibrillation, ventricular tachycardia:
 - Adenosine is not effective in converting these rhythms to sinus rhythm.

Adverse Reactions:

- Sense of impending doom
- Flushing of the skin
- Chest pressure
- Throat tightness
- Numbness

Drug Interaction:

- Methylxanthines (e.g. caffeine and theophylline) antagonize the action of adenosine.
- Dipyridamole potentiates the effect of adenosine; reduction of adenosine dose may be required.
- Carbamazepine may potentiate the atrioventricular-nodal blocking effect of adenosine.

How Supplied:

- Parenteral for IV injection.
 - 3mg/mL in 2mL and 5mL vials.

Dosage and Administration:

- Adult:
 - Initial dose - 6mg rapid IV bolus over 1-3 seconds, followed by a 20mL saline flush; elevate extremity.
 - Repeat dose – If no response is observed after 1-2 minutes, administer a 12mg repeat dose in the same manner.

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Pediatric:

- Initial dose 0.1mg/kg (max first dose – 6mg); rapid IV bolus, followed by a 5ml saline flush.
- Repeat dose 0.2mg/kg (max repeat dose – 12mg); rapid IV bolus, followed by 5mL saline flush.

Special Considerations:

- Pregnancy safety Category C.
- A brief period of asystole (up to 15 seconds) following conversion, followed by resumption of normal sinus rhythm, is common after rapid administration.
- Adenosine may produce bronchoconstriction in patients with asthma and in patients with bronchopulmonary disease.
- Consider possibility of dehydration or shock on patients with no PSVT history.
- Monitor electrocardiogram during administration.