

Southern Illinois Regional EMS System

JJ-10 DOPAMINE

Class:

- Sympathomimetic.

Description:

- Dopamine is related chemically to epinephrine and norepinephrine. It acts primarily on α_1 and β_1 adrenergic receptors in dose-dependent fashions. At low doses, dopamine may act on dopaminergic receptors, causing renal, mesenteric and cerebral vascular dilation. At moderate doses ("cardiac doses"), dopamine stimulates β -adrenergic receptors, causing enhanced myocardial contractility, increased cardiac output, and a rise in blood pressure. At high doses ("vasopressor doses"), dopamine has an α -adrenergic effect, producing peripheral arterial and venous constriction. Dopamine commonly is used in the treatment of hypotension associated with cardiogenic shock.

Onset and Duration:

- Onset: 2-4 minutes.
- Duration: 10-15 minutes.

Indications:

- Hemodynamically significant hypotension in the absence of hypovolemia.

Contraindications:

- Tachydysrhythmias.
- Ventricular fibrillation.
- Patients with pheochromocytoma.

Adverse Reactions:

- Dose-related Tachydysrhythmias.
- Hypertension.
- Increased myocardial oxygen demand (e.g., ischemia).

Drug Interactions:

- Dopamine may be deactivated by alkaline solutions:
- Sodium bicarbonate and Furosemide.
- MAO inhibitors may potentiate the effect of dopamine.
- Sympathomimetics and phosphodiesterase inhibitors exacerbate dysrhythmia response.
- β -adrenergic antagonists may blunt inotropic response.
- When administered with phytotoxin, hypotension, bradycardia, and seizures may develop.

How Supplied:

- 200mg, 400mg, 800mg in 5ml prefilled syringe and ampules for IV infusion (IV piggyback).

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JJ-10 DOPAMINE (continued)

Dosage and Administration:

- Adult:
 - Low dose: 1-5mcg/kg/minute IV/IO
 - Moderate dose: 5-10mcg/kg/minute IV/IO (cardiac dose)
 - High dose: 10-20mcg/kg/minute IV/IO (vasopressor doses)
 - Not to exceed 20mcg/kg/min.
- Pediatric:
 - 2-20mcg/kg/minute IV/IO titrated to patient response:
 - Not to exceed 20mcg/kg/minute

Special Considerations:

- Pregnancy Category C.
- Infuse through large, stable vein to avoid the possibility of extravasation injury.
- Use infusion pump to ensure precise flow rates.
- Monitor patient for signs of compromised circulation.
- Correct hypovolemia before using dopamine in hypotensive patients.