

Southern Illinois Regional EMS System

JJ-10 DOPAMINE (INTROPIN)

1. Class:
 - 1.1. Sympathomimetic.
2. Description:
 - 2.1. 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 beta-adrenergic receptors, causing enhanced myocardial contractility, increased cardiac output, and a rise in blood pressure. At high doses (“vasopressor doses”), dopamine has an alpha-adrenergic effect, producing peripheral arterial and venous constriction. Dopamine commonly is used in the treatment of hypotension associated with cardiogenic shock.
3. Onset and Duration:
 - 3.1. Onset: 2 – 4 minutes.
 - 3.2. Duration: 10 – 15 minutes.
4. Indications:
 - 4.1. Hemodynamically significant hypotension in the absence of hypovolemia.
5. Contraindications:
 - 5.1. Tachydysrhythmias.
 - 5.2. Ventricular fibrillation.
 - 5.3. Patients with pheochromocytoma.
6. Adverse Reactions:
 - 6.1. Dose-related Tachydysrhythmias.
 - 6.2. Hypertension.
 - 6.3. Increased myocardial oxygen demand (e.g., ischemia).
7. Drug Interactions:
 - 7.1 Dopamine may be deactivated by alkaline solutions:
 - 7.1.1. Sodium bicarbonate and Furosemide.
 - 7.2. MAO inhibitors may potentiate the effect of dopamine.
 - 7.3. Sympathomimetics and phosphodiesterase inhibitors exacerbate dysrhythmia response.
 - 7.4. Beta-adrenergic antagonists may blunt inotropic response.
 - 7.5. When administered with phytotoxin, hypotension, bradycardia, and seizures may develop.
8. How Supplied:
 - 8.1. 200mg, 400mg, 800mg in 5ml prefilled syringe and ampules for IV infusion (IV piggyback).

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9. Dosage and Administration:

9.1. Adult:

9.1.1. Low dose: 1 – 5mcg/kg/minute.

9.1.2. Moderate dose: 5 – 10mcg/kg/minute (cardiac dose).

9.1.3. High dose: 10 – 20mcg/kg/minute (vasopressor doses).

9.2. Pediatric:

9.2.1. 2 – 20mcg/kg/minute IV/IO titrated to patient response:

9.2.1.1. Not to exceed 20mcg/kg/minute.

10. Special Considerations:

10.1. Pregnancy Category C.

10.2. Infuse through large, stable vein to avoid the possibility of extravasation injury.

10.3. Use infusion pump to ensure precise flow rates.

10.4. Monitor patient for signs of compromised circulation.

10.5. Correct hypovolemia before using dopamine in hypotensive patients.