Dopamine Intravenous Infusion for Adults

Who can administer

Administration RESTRICTED - see Appendix 1

Important information

For Y-site compatibility see below

Available preparations

Dopamine Hydrochloride 200mg per 5ml vial

Reconstitution

Already in solution

Dilute further prior to administration

Infusion fluids

Sodium chloride 0.9% or Glucose 5%

Methods of intravenous administration

Continuous intravenous infusion (administer using an electronically controlled infusion device)

Central line (ref 1)

- Add 5ml (200mg) to 45ml infusion fluid (200mg in 50ml) (unlicensed)
- This contains 4mg (4000 micrograms) per ml
- Rate is adjusted according to response - see under 'dose'

Peripheral line (ref 1)

- Add 10ml (400mg) to 240ml infusion fluid (400mg in 250ml)
- This contains 1.6mg (1600micrograms) per ml
- To **avoid tissue necrosis** dopamine is best given via a large vein
- Rate is adjusted according to response - see under 'Dose'

Dose in adults

Usual dose

- Initial rate is 2.5 micrograms/kg/minute adjusted according to response
- In more severe cases, administration may be initiated at a rate of 5 micrograms/kg/minute, and increased gradually in 5 to 10 micrograms/kg/minute increments up to 20 to 50 micrograms/kg/minute as needed
- Increases should be made according to the patient's blood pressure, cardiac output, and urinary output
- A reduction in urinary flow without hypotension may indicate a need to reduce the dose
- Dopamine should be withdrawn gradually to avoid unnecessary hypotension
- See tables of rates of administration on following page

Dopamine 200mg in 50ml CENTRAL line administration

Dose (micrograms/kg/minute)	2.5	5	7.5	10
	Rate in ml per hour			
40kg	1.5	3	4.5	6
45kg	1.7	3.4	5.1	6.8
50kg	1.9	3.8	5.6	7.5
55kg	2.1	4.1	6.2	8.3
60kg	2.3	4.5	6.8	9
65kg	2.4	4.9	7.3	9.8
70kg	2.6	5.3	7.9	10.5
75kg	2.8	5.6	8.4	11.3
80kg	3	6	9	12
85kg	3.2	6.4	9.6	12.8
90kg	3.4	6.8	10.1	13.5
95kg	3.6	7.1	10.7	14.3
100kg	3.8	7.5	11.3	15
105kg	3.9	7.9	11.8	15.8
110kg	4.1	8.3	12.4	16.5
115kg	4.3	8.6	12.9	17.3
120kg	4.5	9	13.5	18

Dopamine 400mg in 250ml PERIPHERAL line administration

Dose (micrograms/kg/minute)	2.5	5	7.5	10
	Rate in ml per hour			
40kg	3.8	7.5	11.3	15
45kg	4.2	8.4	12.7	16.9
50kg	4.7	9.4	14.1	18.8
55kg	5.2	10.3	15.5	20.6
60kg	5.6	11.3	16.9	22.5
65kg	6.1	12.2	18.3	24.4
70kg	6.6	13.1	19.7	26.3
75kg	7	14.1	21.1	28.1
80kg	7.5	15	22.5	30

85kg	8	15.9	23.9	31.9
90kg	8.4	16.9	25.3	33.8
95kg	8.9	17.8	26.7	35.6
100kg	9.4	18.8	28.1	37.5
105kg	9.8	19.7	29.5	39.4
110kg	10.3	20.6	30.9	41.3
115kg	10.8	21.6	32.3	43.1
120kg	11.3	22.5	33.8	45

Monitoring

- Monitor blood pressure, ECG and cardiac and urinary output
- When used in patients with a history of occlusive vascular disease, closely monitor for any changes in colour or temperature of the skin of the extremities

Further information

- Low-dose dopamine has **no role in reducing renal dysfunction**
- **If extravasation occurs**, dopamine may cause necrosis and sloughing of surrounding tissue. To prevent sloughing and necrosis, the area should be infiltrated as soon as possible with 10 to 15ml of a Sodium chloride 0.9% solution containing 5 to 10mg phentolamine

Storage

- Store below 25^{0}C

References

Dopamine SPC 10/2024

1: Injectable medicines guide (Medusa)- downloaded 22/01/2024

Therapeutic classification

Inotropic sympathomimetics