Guidelines for Use of Prostaglandin E1 Infusion
(PGE-1, Alprostadil)

Recommended Neonatal Dose, Route, and Interval:

Initial dose: 0.05 - 0.1 mcg/kg/min IV continuous infusions. May advance to 0.2 mcg/kg/min if necessary. Higher doses may have an increased incidence of adverse effects without improvement of oxygenation.

Maintenance dose: Once increase in PaO2 is obtained, decrease the infusion to the lowest effective dose (may be as low as 0.01 mcg/kg/min).

Chief Indications:

1. Maintains patency of ductus arteriosus in neonates with ductal – dependant congenital heart lesions until surgery can be done.
2. Improve shunting after balloon septostomy has failed to improve oxygenation in certain cases of complete transposition of the great arteries.

Possible Adverse Reactions:

1. Apnea (in up to 15% of patients) 6. Thrombocytopenia
2. Fever 7. Hypoglycemia, hypocalcaemia
4. Hypotension & Bradycardia 9. lethargy
5. Cortical hyperostosis with prolonged use

Contraindications & Precautions:

1. Hypersensitivity to prostaglandin E
2. PPHN
3. Total anomalous pulmonary venous return with obstruction
4. Caution use in presence of bleeding tendencies or seizure disorders.

Nursing Implications:

1. Obtain baseline vital signs, monitor ECG & BP closely
2. Assess for ductal patency and for improvement in oxygenation
3. Monitor for respiratory depression and be prepared for intubation.
4. Monitor infant’s temperature closely
5. Maintain patient’s IV at all times. Have two IV sites to avoid interruption of PGE infusion
6. Solution compatibility: D5W, NS
7. Two RN signatures are required to verify that physician order is calculated within guidelines and that the infusion rate is accurate
8. All meds mixed by pharmacy have a 24hr sterility expiration
9. Standard concentration prepared by pharmacy is 10mcg/mL in D5W or NS.
References:


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