

LIDOCAINE

ACTION and USES

Lidocaine may be used for recurrent seizures or status epilepticus. These off-label indications require a consultant decision. Lidocaine alters signal conduction in neurons by blocking the fast voltage gated sodium (Na⁺) channels in the neuronal cell membrane that are responsible for signal propagation.

DOSAGE

Loading dose: 2 mg/kg over 10 minutes

Maintenance dose:

Full term or > 2.5kg 7mg/kg/hr for 4 hours (7mg/kg/hr for 3.5 hours if cooled*)

then 3.5mg/kg/hr for 12 hours

then 1.75mg/kg/hr for 12 hours then stop.

2.00 -2.5kg 6mg/kg/hr for 4 hours (6mg/kg/hr for 3.5 hours if cooled*)

then 3mg/kg/hr for 12 hours,

then 1.5mg/kg/hr for 12 hours then stop.

800g- 1.99kg 5mg/kg/hr for 4 hours (5mg/kg/hr for 3.5 hours if cooled*)

then 2mg/kg/hr for 6 hours,

then 1mg/kg/hr for 12 hours then stop.

* cooled= therapeutic hypothermia

ADMINISTRATION

Only to be used with consultant agreement and direction

Use a separate syringe for loading dose and each different infusion rate.

Prepare a new syringe for the next dose prior to completion of previous syringe.

RECONSTITUTION

Lidocaine is available as a 1% solution containing lidocaine hydrochloride (10mg/ml) in 2ml and 10ml ampoules.

Note other strengths are available and check that the product is preservative and adrenaline free.

Dilution is not required

At a concentration of 10mg/ml (1%) the rate of infusion is calculated by the following formula

Rate= 0.1 x dose/kg/hour x wt

INCOMPATIBILITIES

Do not mix or infuse with any other drugs unless confirmed with pharmacy.

STORAGE

Opened ampoules should be discarded immediately after opening. The unopened ampoules are stored in the drug cupboard.

MONITORING

Monitor ECG and blood pressure. If an infant becomes severely bradycardic it is essential to stop the infusion immediately. Hypotension and cardiac arrhythmias may rarely lead to arrest. CNS and peripheral reactions are dose related. Overdose may result in fitting. Resuscitation equipment should be available.

Reference- van den Broek et al. Anticonvulsant treatment of asphyxiated newborns under hypothermia with lidocaine; efficacy, safety and dosing. Arch Dis Child Fetal Neonatal Ed 2013; 98: F341-F345

Guidelines for IV medicine administration – Lothian Neonatal Services

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