Lidocaine

Introduction

- Lidocaine is an amide local anaesthetic that is a non-selective sodium channel blocker
- acts by suppressing ectopic neural discharges originating from injured afferent fibres by blocking sodium channels – damaged neurons more sensitive to Lidocaine.
- also has effects on brain sodium channels
- does not have any effect on the normal function of other sensory/motor neurones.
- has effect on lowering susceptibility to all types of pain
- activates endogenous opioid system.

Pharmacology

a) Indications

- Neuropathic pain

a) Difficult pain not responding to other analgesics
b) In terminal phase

- Any difficult pains not responding to optimal treatment.

b) Contraindications

- hepatic disease
- cardiac arrhythmias, complete block
- Epilepsy
- cautions: epilepsy, shock brady cardia

c) Drug Interactions

- other anaesthetics
- antiarrhythmic drugs
- increased risk with drugs that prolong QT interval
- Beta Blockers
- Cimtidine

d) Available Preparations
1% Lidocaine hydrochloride 10mg/ml – 2,5,10,20ml
2% Lidocaine Hydrochloride 20mg/ml – 2,5ml

e) Side Effects

- light-headedness, dizziness, somnolence increases risk with perianal numbness increasing dose
- Headache
- respiratory depression
- Hallucinations
- seizure

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Guidelines
a) Administration/Dose
i) occasionally given IV as test dose equates to +100mg per day 1-5mg/kg (usual starting dose)
ii) pulse therapy (CSCI)
given via CSCI over 6-24 hours
increase by 100mg/day until response obtained
once response obtained continue at same dose for 5 days then stop infusion
can repeat infusion when pain returns
maximum dose 600mg/24hours
b) Prevention of Side Effects

- consider reduction of opioids when commencing Lidocaine
- no oral equivalent to Lidocaine but good response may suggest that oral
- Mexilitine could be effective in maintaining analgesic control

Monitoring During Treatment
Baseline and then half hourly for first 2 hours, then 4 hourly thereafter:

- heart rate/pulse
- respiratory rate
- BP
- ECG – repeat ECG with each increase in dose or significant alteration in heart rate or rhythm
- O2 sats – if less than 90% consider treatment whilst on O2 to maintain saturation at less than 95%
- If any significant changes in observations notify doctors ASAP

References/Bibliography
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