

Lidocaine Infusion Procedure

(M.C. and T.R.O. for Marshfield Clinic Palliative Medicine Fellowship)

Indication

Refractory neuropathic cancer related pain in the palliative care setting; it has been shown to be of use in the following conditions:

Diabetic neuropathy, post herpetic neuralgia, various painful neuropathic disorders including CRPS type 1 & 2, post stroke pain syndrome

Used as a fourth line treatment after gabapentin, nortryptiline, duloxetine.
In all settings we would typically use ketamine prior to trial of lidocaine.

Dose

Challenge (initial) dose is 5mg/kg IV over 60 minutes; however, note that the St. Joseph Hospital pharmacy monograph does not allow giving more than 300 mg of lidocaine in 1 hour. In that case, extend the infusion beyond 60 minutes to deliver the entire 5mg/kg dose.

If effective (pain decreases by at least 2/10 points) then continue as a continuous infusion of no more than 2mg/kg/hour for 24-48 hours, then attempt conversion to Mexiletine.

Monitoring

Pain

Assess pain prior to beginning infusion q 15 minutes during infusion; 30 minutes post infusion; 2 hours post infusion; 4 hours post infusion and routinely thereafter.

Expect relief in 45 -120 minutes of starting the infusion the effect is known to last 4 hours post infusion and perhaps longer.

The effectiveness could be a decrease in pain intensity or it could be more subtle where it becomes 'bearable' / the evoked pain to pin prick is diminished.

Vital Signs

PR, RR, BP prior to infusion, q 15 minutes during infusion, 30 minutes post infusion.

Does not need telemetry at this dose.

Watch for potentiating of opioid effect if already on opioids.

Telemetry:

Not needed as long as clinical monitoring of side effects is ongoing (see below)

Note: muscle twitching occur at blood levels >8mg/L, Seizures > 10 mg/L, Serious Cardiac toxicity >25 mg/L.

Side Effects Monitoring and Response

Assess for lidocaine side effects (lightheadedness, dizziness, perioral numbness tingling, nausea, vomiting, palpitation, twitching) q 15 minutes during infusion and 30 minutes post infusion.

- **Stop infusion if** mild/moderate side effects develop
- If side effects resolve in 15 minutes resume infusion at $\frac{1}{2}$ previous rate and finish the scheduled dose.
- If side effects do not resolve in 15 minutes discontinue the infusion.
- If side effects recur when infusion restarted, discontinue infusion.

Follow up (after 24 hours of infusion treatment):

Convert to oral Mexiletine 100/150 mg BID; if Mexiletine ineffective, return to lidocaine infusion.