

# THE TABLET: PALLIATIVE CARE PHARMACY TIPS



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If you have a topic you would like the pharmacy team to answer, please send your suggestions to: lowrymf@upmc.edu

## TODAY'S TOPIC:

### Another Tool in your Palliative Care Toolbox: Lidocaine Series Part 1 Question #1: What is the evidence for lidocaine in treating neuropathic and opioid-refractory pain?

#### Background:

Lidocaine is used often in the peri-operative phase to decrease surgical pain and reduce opioid use. Less is known about its role for pain management in the non-surgical setting. Lidocaine's side effect profile and listed contraindications can be daunting and limit its use for pain management. Risk and benefit ratio must be carefully considered prior to choosing as an agent for pain management.

#### Importance:

Lidocaine is used within palliative care, specifically for *refractory* pain. Like many practices in palliative care, limited data exists for lidocaine's use in this setting and anecdotal evidence helps drive clinician prescribing practices. Given the side effect burden and possible toxicities related to systemic (IV) lidocaine use, palliative care clinicians should be familiar with the literature to guide therapy decisions when considering utilizing lidocaine for refractory pain.

UPMC has a clinical practice guideline for lidocaine use in severe neuropathic pain and opioid refractory pain, including highlights of some evidence for its' use (check out the link below).

[UPMC Lidocaine Clinical Practice Guideline](#)

#### The Literature:

[J Palliat Med. 2019 Mar;22\(3\):326-334.](#)

#### Lidocaine for Cancer Pain in Adults: A Systematic Review and Meta-Analysis

- 5 trials between 1989-2014 of lidocaine use for refractory pain. Studies included different indications such as neuropathic cancer pain, allodynia, opioid-refractory cancer pain, bone metastases-related pain, which limited complete meta-analysis
  - Lidocaine vs. placebo: 4 studies
  - Lidocaine regimens:
    - Bolus: lidocaine 5mg/kg IV over 30 mins, lidocaine 3mg/kg (Ideal Body Weight) IV over 60 mins, lidocaine 2mg/kg IV bolus + 2mg/kg IV over 60 mins
- Outcomes:
  - Primary: substantial benefit (defined as at least 50% pain reduction)
  - Secondary: moderate benefit (at least 30% pain reduction), mild pain post-infusion (<30/100 mm on VAS), adverse event, and serious adverse events
- Results:
  - Primary outcome:
    - 2 studies included (n=60): improvement in number of participants gaining substantial pain relief with lidocaine; RR 3.29 [1.41-7.70] p=0.006
  - Secondary outcome:
    - No difference in moderate or mild pain relief, global impression of change, and post-infusion pain score
  - Adverse events:
    - More patients experienced two or more side effects after lidocaine (24% vs. 4%, p = 0.006) such as perioral numbness, sedation, light-headedness, tinnitus, and headache. No severe adverse effects were reported.
- Conclusion
  - Meta-analysis of pooled data in 60 patients identifies that there may be a benefit for lidocaine infusion of 4–5 mg/kg over 30–80 minutes compared with placebo for >50% reduction in cancer pain.

You should be aware of these studies, too (not included in review above):

[Clin J Pain. Mar-Apr 2006;22\(3\):266-71.](#)

#### A Randomized, Double-Masked, Placebo-Controlled Pilot Trial of Extended IV Lidocaine Infusion for Relief of Ongoing Neuropathic Pain

- Lidocaine regimens:
  - 6-hour infusion of three doses: 1, 3, and 5mg/kg IV
- Results
  - Improvement in pain was more significant with higher doses: 5mg/kg
  - Most common ADE: lightheadedness, perioral numbness, headache

[J Palliat Med. 2004 Oct;7\(5\):660-7.](#)

#### Intravenous Lidocaine Relieves Severe Pain: Results of an Inpatient Hospice Chart Review

- Lidocaine regimens:
  - 1-2mg/kg over 15-20 minutes; 30 minutes post-infusion pain reassessed- if improvement then initiate continuous infusion of lidocaine ~1mg/kg/hour; duration of infusion not well-defined
- Results:
  - Majority of patients receiving lidocaine had "major response" defined as decrease in pain score of 3 or more points on VAS (0-10)
  - Most common ADE: lethargy/somnolence

**Stay tuned for next week's article: What's happened in the literature since 2016?**

#### CLINICAL PEARL:

Lidocaine can be utilized in palliative care for refractory cancer/neuropathic pain, efficacy data is mixed and dosing regimen/interval is not well-defined.