

Low-dose ketamine for acute pain: A Narrative Review



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Low-dose ketamine is as effective as opioids for the treatment of acute pain and when used in conjunction can provide a significant opioid sparing effect with limited side effects.

BACKGROUND

- Respiratory compromise and other side effects associated with opioids present obstacles to their employment in combat medicine.
- Low dose ketamine may be an effective alternative for treatment of acute pain while limiting side effects

OBJECTIVES

- Identify recent literature involving LDK analgesia use in prehospital and emergency room settings .
- Identify further research opportunities for the employment of LDK analgesia in prehospital and emergency room settings.

METHODS

Scoping review using PRISMA-ScR guidelines using PubMed Medline. Excluded studies involving sedation, chronic pain, anti-depressant effects or psychiatric conditions.

249

Potential Studies



65

Met inclusion criteria

Inclusion Criteria:

Prospective or retrospective studies evaluating use of LDK for treatment of acute pain in prehospital or ED settings published < 30 Jan 24

RESULTS

Search Results

Prehospital setting	21 Studies
ED setting	44 Studies
RCTs	33

- LDK is increasingly popular in civilian ED and prehospital settings with multiple dosing regimens and routes of administration, including intranasal, under investigation.
- Studies clearly demonstrate that LDK is non-inferior to morphine or fentanyl when used alone.
- LDK may provide an opioid-sparing effect when used as an adjunct.
- LDK is an effective modality for treatment of acute pain in pediatric and adult setting.
- More research is needed to determine the most effective multi-modal combinations incorporating LDK.
- Side effects of LDK are usually mild and transient and typically do not compromise respiratory or hemodynamic status when dosed to <0.5mg/kg.
- Although rare at low doses, the most common side effects of ketamine administration are psychomimetic.
- There are multiple agents that can be co-administered with LDK to mitigate side effects. More research is needed to determine the best options.

CONCLUSIONS

- LDK may offer comparable analgesia to opiates with an advantageous hemodynamic profile when used for moderate-to-severe pain in resource-limited settings.
- Room for further study involving LDK in conjunction with other analgesic options as well as better characterization of dosing regimens for IM and IN routes of administration.

LIMITATIONS

- All studies were limited by substantial heterogeneity in dosing regimen, routes of administration, clinical end points.
- Pre-hospital studies tended to suffer from a lack of RCTs and low population size.
- Limited studies evaluating the effectiveness of LDK in conjunction with specific opioids compared to opioids alone.

DISCLAIMERS

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