Intranasal Sufentanil for Acute Pain: Clinical Effectiveness and Guidelines
SUMMARY OF ABSTRACTS

Intranasal sufentanil for Acute Pain

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Acknowledgments:

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Research Questions

1. What is the clinical effectiveness of intranasal sufentanil for acute pain in adults?
2. What are the evidence-based guidelines regarding the use of intranasal opioids for acute pain in adults?

Key Findings

Three evidence-based guidelines were identified regarding the use of intranasal opioids for acute pain in adults.

Methods

A limited literature search was conducted on PubMed, EMBASE, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. For question #1, no methodological filters were applied to limit retrieval by study type. For question #2, methodological filters were applied to limit retrieval to guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2012 and November 20, 2017. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult patients with acute pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interventions</td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td>Intranasal sufentanil</td>
</tr>
<tr>
<td>Q2:</td>
<td>Intranasal opioids (e.g., sufentanil, ketamine, or fentanyl)</td>
</tr>
<tr>
<td>Comparators</td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td>Standard of care (intravenous morphine, hydromorphone); Intranasal fentanyl; Ketamine</td>
</tr>
<tr>
<td>Q2:</td>
<td>No comparator</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
</tr>
<tr>
<td>Q1:</td>
<td>Clinical effectiveness (benefit/harm), safety, time to onset of pain relief</td>
</tr>
<tr>
<td>Q2:</td>
<td>Guidelines</td>
</tr>
<tr>
<td>Study Designs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines</td>
</tr>
</tbody>
</table>
Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Three evidence-based guidelines were identified regarding the use of intranasal opioids for acute pain in adults. No relevant health technology assessment, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified regarding the clinical effectiveness of intranasal sufentanil for acute pain in adults.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

Three evidence-based guidelines\textsuperscript{1-3} were identified regarding the use of intranasal (IN) opioids for acute pain in adults.

In terms of IN opioid use, the Intranasal Medication Administration guidelines by the Emergency Nurses Association recommend the use of IN fentanyl to treat moderate to severe pain in both adults and children (aged one to 18) in the emergency setting.\textsuperscript{1} In addition, IN ketamine may be a safe and effective intervention for pain management in the emergency setting; however, there is insufficient evidence to recommend the use of IN sufentanil in the emergency setting.\textsuperscript{1} Recommendations from the National Institute for Health and Care Excellence (NICE) guidelines regarding the assessment and initial management of major trauma include considering the IN route for the delivery of diamorphine or ketamine for pain relief in the pre-hospital and hospital setting if an intravenous (IV) line has not been established.\textsuperscript{2} In terms of potential harms, NICE indicates that caution should be heeded when administering pain relief intranasally and then administering it intravenously due to the additive dosing effects.\textsuperscript{2} In addition, IN administration is contraindicated in cases where there is facial trauma or severe head injury.\textsuperscript{2} The NICE recommendations for the assessment and initial management of spinal injury include considering the IN administration route for the atomized delivery of diamorphine or ketamine for pain relief in the pre-hospital or hospital setting if an IV line has not been established.\textsuperscript{3}

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.
Non-Randomized Studies

No literature identified.

Guidelines and Recommendations


   See: Pain Relief
   Potential Harms, bullet 12

   See: Pain Relief
Appendix — Further Information

Previous CADTH Reports


Systematic Reviews and Meta-Analyses

Alternative Intervention


Alternative Intervention in Pediatric Population


Randomized Controlled Trials – Alternative Intervention

Non-Randomized Studies

No Comparator


Pediatric Population and Combined Intervention


Alternative Intervention


Guidelines and Recommendations – Pediatric Population

See: Initial Pharmacological Management of Pain in Children (Under 16s), second Bullet

Clinical Practice Guidelines – Uncertain Methodology

See: Fentanyl sublingual/intranasal


Review Articles


