

Antiemetics for Opioid-Induced Nausea: A Review

Context

One of the side effects of taking opioids for pain is nausea. Although opioid-induced nausea can occur in any situation in which opioids are taken, it has been studied most following surgery. Opioids are one of the main causes of postoperative nausea and vomiting (PONV), and risk factors for PONV include being female, having a history of PONV, being a non-smoker, being younger in age, and possibly having a poorer health status.

Technology

Antiemetic drugs can be used to prevent and treat opioid-induced nausea. There are many classes of antiemetic drugs including 5-HT₃ receptor antagonists, NK-1 receptor antagonists, corticosteroids, butyrophenones, antihistamines, anticholinergics, and phenothiazines. Ondansetron is the most well-studied 5-HT₃ receptor antagonist and is considered by some to be the gold standard to which other antiemetics are compared.

Dimenhydrinate is an antihistamine commonly used as an antiemetic.

Issue

A review of the evidence comparing the efficacy of different antiemetics together with a review of the clinical effectiveness, benefits and harms, cost-effectiveness, and evidence-based guidelines specifically for dimenhydrinate and ondansetron will help to inform decisions about the treatment of opioid-induced nausea.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

For the management of opioid-induced nausea:

- No antiemetic drug was clearly better than the others.
- The cost-effectiveness of ondansetron or dimenhydrinate is uncertain.
- Evidence-based clinical guidelines recommend dimenhydrinate and ondansetron for the treatment and prevention of PONV.
- Combining antiemetic drugs appears to be beneficial.
- Common side effects of ondansetron are headache, drowsiness, and dizziness.

Results

The literature search identified 268 citations of which 31 were deemed potentially relevant. An additional article was identified from the grey literature. Of these 32 studies, 19 met the criteria for inclusion in this review: 2 guidelines, 16 randomized controlled trials, and 1 retrospective case-control study.

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