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Do surgical patients benefit from perioperative gabapentin/pregabalin? A systematic review of efficacy and safety.

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Abstract

BACKGROUND: Gabapentin and pregabalin have antiallodynic and antihyperalgesic properties useful for treating neuropathic pain. These properties may also be beneficial in acute postoperative pain. In this study we evaluated randomized, controlled trials examining the analgesic efficacy, adverse effects, and clinical value of gabapentinoids in postoperative pain.

METHODS: A systematic search of Medline, PubMed, and Cochrane Central Register of Controlled Trials (CENTRAL) databases yielded 22 randomized, controlled trials on perioperative administration of gabapentinoids for postoperative pain relief.

RESULTS: Pain relief was better in the gabapentin groups compared with the control groups. The opioid-sparing effect during the first 24 h after a single dose of gabapentin 300-1200 mg, administered 1-2 h preoperatively, ranged from 20% to 62%. The combined effect of a single dose of gabapentin was a reduction of opioid consumption equivalent to 30 +/- 4 mg of morphine (mean +/- 95% CI) during the first 24 h after surgery. Metaregression analysis suggested that the gabapentin-induced reduction in the 24-h opioid consumption was not significantly dependent on the gabapentin dose. Gabapentin reduced opioid-related adverse effects, such as nausea, vomiting, and urinary retention (number-needed-to-treat 25, 6, and 7, respectively). The most common adverse effects of the gabapentinoids were sedation and dizziness (number-needed-to-harm 35 and 12, respectively).

CONCLUSIONS: Gabapentinoids effectively reduce postoperative pain, opioid consumption, and opioid-related adverse effects after surgery. Conclusions about the optimal dose and duration of the treatment cannot be made because of the heterogeneity of the trials. Studies are needed to determine the long-term benefits, if any, of perioperative gabapentinoids.

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