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Ketorolac in the Treatment of Acute Migraine: A Systematic Review.

Taggart E, Doran S, Kokotillo A, Campbell S, Villa-Roel C, Rowe BH.

Department of Emergency Medicine, University of Alberta, Edmonton, AB, Canada.

Abstract

This systematic review examined the effectiveness of parenteral ketorolac (KET) in acute migraine. Acute migraine headaches are common emergency department presentations, and despite evidence for various treatments, there is conflicting evidence regarding the use of KET. Searches of MEDLINE, EMBASE, Cochrane, CINAHL, and gray literature sources were conducted. Included studies were randomized controlled trials in which KET alone or in combination with abortive therapy was compared with placebo or other standard therapy in adult patients with acute migraine. Two reviewers assessed relevance, inclusion, and study quality independently, and agreement was measured using kappa (κ). Weighted mean differences (WMD) and relative risks are reported with 95% confidence intervals (CIs). Overall, the computerized search identified 418 citations and 1414 gray literature citations. From a list of 34 potentially relevant studies ($\kappa = 0.915$), 8 trials were included, involving over 321 (141 KET) patients. The median quality scores were 3 (interquartile range: 2-4), and two used concealed allocation. There were no baseline differences in 10-point pain scores (WMD = 0.07; 95% CI: -0.39, 0.54). KET and meperidine resulted in similar pain scores at 60 minutes (WMD = 0.31; -0.68, 1.29); however, KET was more effective than intranasal sumatriptan (WMD = -4.07; 95% CI: -6.02 to -2.12). While there was no difference in pain relief at 60 minutes between KET and phenothiazine agents (WMD = 0.82; 95% CI: -1.33 to 2.98), heterogeneity was high ($I(2) = 70\%$). Side effect profiles were similar between KET and comparison groups. Overall, KET is an effective alternative agent for the relief of acute migraine headache in the emergency department. KET results in similar pain relief, and is less potentially addictive than meperidine and more effective than sumatriptan; however, it may not be as effective as metoclopramide/phenothiazine agents.

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