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Trends in Opioid analgesic use for headaches in US emergency departments

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Background: Headaches are a common presenting complaint in the ED. The American College of Emergency Medicine and the American Academy of Neurology recommend use of agents with serotonergic receptor activity such as prochlorperazine, metoclopramide or triptans in acute headache. Despite consensus guidelines opioid analgesics are still commonly used to treat headaches. This study used the National Hospital Ambulatory Medical Care Survey, 2001 through 2010 to evaluate the use of opioid analgesics in the ED as well as discharge prescriptions given.

Methods: The study was a retrospective review of the National Hospital Ambulatory Medical Care Survey (NHAMCS) 2001-2010. They identified adult headache-related visits and identified medications used to treat. They used two categories, opioid and non-opioid medications for the treatment of headache. Opioid therapy was further broken down by demographics of opioid use, provider and hospital-level factors, individual opioid use, and opioid use by disposition.

Results: Headache visits during which any opioid was used increased between 2001 (20.6%; 95% confidence interval [CI], 18.1-23.4) and 2010 (35.0%; 95% CI, 31.8-38.4; $P < .001$). Prescribing of hydromorphone, morphine and oxycodone increased with the largest relative increase (461.1%) being hydromorphone (2001, 1.8% [95% CI, 1.2-2.6]; 2010, 10.1% [95% CI, 8.2-12.4]). Codeine use declined, and hydrocodone use remained stable. Use of opioid alternatives, including acetaminophen, butalbital, and triptans did not change over the study period, whereas use of nonsteroidal anti-inflammatory drugs increased from 26.2% (95% CI, 23.0-29.7) to 31.4% (95% CI, 28.6-34.3). Prescribing of antiemetic agents decreased from 24.1% (95% CI, 19.6-29.2) to 23.5% (95% CI, 21.1-26.0). Intravenous fluid use increased from 20.0% (95% CI, 17.0-23.4) to 34.5% (95% CI, 31.0-38.2) of visits.

Conclusion: Despite limited endorsement by consensus guidelines, there was increased use of opioid analgesics to treat headaches in US EDs over the past decade.

Limitations: Sample patients were chosen based on reason for visit and not diagnosis, there was no way to review individual records, some patients could have been seen multiple times, the NHAMCS database had multiple changes over the study period, the NHAMCS survey only recorded 6 medications per visit from 2001 to 2003 and was increased to 8 in 2003. The study did not investigate trends in medication use for specific headache subtypes.

Discussion: In general there has been a broad increase in use of opioid analgesics by ED physicians across the US. *Academy of Emergency Medicine journal* 2014;21:236-43 looked at rising opioid prescribing from 2001-2010 in U.S. Emergency Departments and found headache visits to be one of the reasons for a large rise in opioid use. This review has its flaws, but there is no denying an overall increase in prescriptions and use in ED's
