Prophylactic metoclopramide for opioid induced nausea and vomiting following treatment of acute pain in the prehospital setting

Erin Smith, Jason Wasiak and Mal Boyle

Background

Opioids are highly effective analgesics often administered for the emergency treatment of acute pain. When administered for acute pain, analgesics aide in patient management by improving tolerance of, and compliance with, therapeutic manoeuvres such as extrications from car wreckage, administration of oxygen, and application of splints.[1] Nausea and vomiting occur in up to one third of patients receiving morphine.[3] The act of vomiting can increase intracranial pressure, increase the risk of further damage to patients with ocular injuries and abdominal wounds, and impact on vagal stimulation causing changes in blood pressure and pulse rate. The powerful muscular contractions associated with vomiting can cause further damage in specific instances of acute pain. Vomiting can also cause dehydration and the regurgitation of stomach contents, leading to risks of respiratory obstruction, pulmonary inflammation and aspiration pneumonia. Opioid induced nausea may be exacerbated by stimulation of the vestibular apparatus, contributing to a higher incidence of vomiting during ambulance transportation. Prophylactic administration of metoclopramide for patients receiving opioid pain relief may reduce the incidence of nausea and vomiting in the ambulance.

Data Source

The Cochrane Library 2004, Issue 2

Search Terms

[Prehospital Search Filter Version 1.0](#)

Metoclopramide, Maxolon, Pramin, anti-emetic, antiemetic, opioid, narcotic, analgesic, pain[5]

Search Results

Protocols

"Prophylactic anti-emetic therapy to prevent opioid induced nausea and vomiting following treatment of acute pain in the hospital emergency department and ambulance paramedic setting". Smith E, Boyle M, Wasiak J. Cochrane Library. In press 2004

Systematic Reviews

None

Controlled Clinical Trials

None

Commentary

No studies in the Cochrane Library have assessed the benefit of prehospital prophylactic administration of metoclopramide with opioid analgesia. Two studies however examined metoclopramide for this purpose

Author(s): Smith et al.

in the hospital emergency department setting.[2,4] Neither study reported a significant change in the rate of nausea and vomiting in patients given metoclopramide compared to a placebo.

The Bottom Line

There is no evidence in the Cochrane Library addressing the prophylactic administration of metoclopramide with opioid analgesic in the prehospital care setting.

References

1. Chambers JA, Guly HR. Prehospital intravenous nalbuphine administered by paramedics. *Resuscitation* 1994;27:153-158
2. Lambie B, Chambers J, Herbison P. The role of prophylactic anti-emetic therapy in emergency department patients receiving intravenous morphine for musculoskeletal trauma. *Emergency Medicine* 1999;11:240-243
3. Sussman G, Shurman J, Creed MR, Larsen LS, Ferrer-Brechner T, Noll D et al. Intravenous Ondansetron for the Control of Opioid-Induced Nausea and Vomiting. *Clinical Therapeutics* 1999;21(7):1216-1227
4. Talbot-Stern J, Paolini R. Prophylactic Metoclopramide is Unnecessary With Intravenous Analgesia in the ED. *American Journal of Emergency Medicine* 2000;18(6):653-657
5. Smith E, McDonald S, Wasiak J, Jennings P, MacPherson C, Archer, F. The development of a prehospital search filter for the Cochrane Library. *Journal of Emergency Primary Health Care (Serial on the Internet)* Vol. 2, Issue 1-2, 2004, Item No. CC990071. Available from: http://www.jephec.com/full_article.cfm?content_id=152

This article should be cited as:

Smith E, Wasiak J, Boyle M. Prophylactic metoclopramide for opioid induced nausea and vomiting following treatment of acute pain in the prehospital setting. *Journal of Emergency Primary Health Care [serial on the Internet]*. 2004;2(1-2): Item No. CC990070. Available from: http://www.jephec.com/full_article.cfm?content_id=151