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Authors:

A/Prof Anna Holdgate
Prof Anne-Maree Kelly

Reviewers:

Emergency Care Community of Practice Clinical Leaders Group & Research Reference Group

Endorsed by:

College of Emergency Nursing Australasia
Australian College of Emergency Nursing
Australasian College for Emergency Medicine

For more information:

The Emergency Care Community of Practice
National Institute of Clinical Studies
Fawkner Centre, Level 5, 499 St Kilda Rd
Melbourne VIC 3004
T: +61 3 8866 0400
F: +61 3 8866 0499
E: cop@nicsl.com.au
W: www.nicsl.com.au

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Management of Acute Migraine



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Why is this important?

Migraine is a common emergency department problem – up to three per cent of emergency department visits have headache as their presenting complaint.[1,2]

Migraine headache can be a disabling condition. It occurs in a relatively young, working population and under-treatment leads to time off work and reduction in normal activities. Sufferers have generally tried their 'usual' medication but have persistent severe symptoms.[3,4] In addition, frequent recurrent headache can predispose to misuse of pain relief medications. Overuse of narcotics can promote dependence and these drugs have been shown to be relatively ineffective in migraine, with high rebound headache rates.[2]

Using the recommended first-line treatments for migraine would provide superior pain relief for migraine sufferers, without the risk of pethidine dependency.

Best available evidence

There are several published clinical practice guidelines for acute headache (Australia, US, Canada) but not all focus on acute migraine. Many therapies are available as acute treatment options. Most evidence about these treatments is based on case studies and the studies are of variable quality.

There are no placebo-controlled studies demonstrating the effectiveness of narcotic agents in the treatment of migraine.[5] Only one small clinical trial [3] has investigated the effectiveness of pethidine without adjuvant anti-emetic or phenothiazine, reporting a clinical success rate of 56 per cent. Any benefit must be balanced against the potential for development of dependence.[2] This is highlighted in a study of 1,900 patients with chronic headache, of whom five per cent were defined as analgesic abusers.[6]

Treatments with clearer evidence of effectiveness in acute migraine include phenothiazines (chlorpromazine, prochlorperazine), triptans and metoclopramide.[7,8] Suggested treatment in mild, moderate and severe cases are given in the table opposite.

Given that the risk/benefit ratio for pethidine in migraine is unclear and that there are other more effective agents available, use of pethidine to treat migraine is not recommended.[7,8]

Management of Acute Migraine

Current practice

Pethidine is commonly used in some countries as first line management for migraine or severe headache.[1] Available data from the USA suggests that there is considerable variability in practice and, in particular, there is overuse of narcotics and under-use of phenothiazines.[1] Two studies looked at eight emergency departments in the USA and Canada with 990 patients who presented with migraine. Up to 78 per cent received narcotics as first line therapy and over half of these were given pethidine.[2,9] In Australia, an audit of emergency departments (22 in New South Wales, one in Victoria) identified migraine as one of the top four documented indications for pethidine prescribing.[10]

Implications

Patients with migraine need prompt relief of their symptoms whilst safely excluding other causes of headache. Using recommended first line treatments would provide superior pain relief for migraine sufferers without the risk of dependency.

Management of acute migraine:

Mild/Moderate Migraine [11]
(who have not taken own medications)

aspirin 900mg + metoclopramide 10mg orally (Level 1)

Moderate Migraine
(who have taken usual medications or are vomiting)
Severe Migraine (Community Setting)

metoclopramide 10mg IM **or** prochlorperazine 12.5mg IM **or** sumatriptan 6mg SC (Level 2)

Moderate to Severe Migraine (ED setting) [12]

chlorpromazine: 25mg in 1000mls normal saline IV over 30–60 mins repeated if necessary **or** prochlorperazine 12.5mg IV **or** sumatriptan 6mg SC (Level 2b)

- 7 Australian and New Zealand College of Anaesthetists, Faculty of Pain Medicine (2005) *Acute pain management: scientific evidence*, 2nd edition. Australian and New Zealand College of Anaesthetists, Melbourne. Available at: www.nhmrc.gov.au/publications/synopses/cp104syn.htm. Accessed Sep, 2005
- 8 Pryse-Phillips WEM, Dodick DW, Edmeads JG (1997) Guidelines for the diagnosis and management of migraine in clinical practice. *Can Med Assoc J* 156:1273–1287
- 9 Vinson DR et al (2003) Variations among emergency departments in the treatment of benign headache. *Ann Emerg Med* 41:90–97
- 10 Kaye KI et al (2005) Pethidine in emergency departments: promoting evidence-based prescribing. *Med J Aust* 183:129–133
- 11 Oldman AD et al (2002) Pharmacological treatments for acute migraine: quantitative systematic review. *Pain* 97:247–257
- 12 Kelly AM (2005) Specific pain syndromes: Headache. In: Mace S, Ducharme J, Murphy MF, [Eds] *Pain management and sedation: emergency department management*. McGraw-Hill Professional

- 1 Vinson DR (2002) Treatment patterns of isolated benign headaches in US emergency departments. *Ann Emerg Med* 39:215–22
- 2 Colman I et al (2004) Use of narcotic analgesics in the emergency department treatment of migraine headache. *Neurology* 62:1695–1700
- 3 Larkin GL, Prescott JE (1992) A randomized, double-blind, comparative study of the efficacy of ketorolac tromethamine versus meperidine in the treatment of severe migraine. *Ann Emerg Med* 21:919–924
- 4 Shrestha M et al (1996) Ketorolac vs chlorpromazine in the treatment of acute migraine without aura: A prospective, randomised, double-blind trial. *Arch Intern Med* 156:1725–1728
- 5 Kelly AM (2000) Migraine: pharmacotherapy in the emergency department. *Emerg Med J* 17:241–245
- 6 Granella F et al (1987) Drug abuse in chronic headache: a clinico-epidemiologic study. *Cephalalgia* 7:15–19

