In patients with acute migraine, is metoclopramide more effective than a control intervention for reducing symptoms?

METHODS

Data sources: Medline; EMBASE/Excerpta Medica; Lilacs; Cinahl; Cochrane Central Register of Controlled Trials; neurology, headache, and emergency medicine conference proceedings (1998–2004); clinical practice guidelines; websites; theses or dissertations; reference lists; and experts in the field.

Study selection and assessment: randomised controlled trials (RCTs) that compared parenteral metoclopramide with placebo, other antiemetics (AEs), non-AEs, or other antimigraine (AM) regimens in adults with an acute migraine in an emergency department (ED) or headache clinic, and distinguished migraine from other types of headaches. Study quality was assessed.

Outcomes: complete relief of headache, significant reduction in headache pain (from moderate or severe to mild or none), and reduction in headache pain on the basis of a 10 cm visual analogue scale (VAS). Secondary outcomes included relapse of migraine within 48 hours of treatment, nausea, number of rescue drugs required, functional status, and adverse effects.

MAIN RESULTS

13 RCTs (n = 655) met the selection criteria. 7 RCTs (54%) were high quality (Jadad score ≥3). Using a random effects model, meta-analysis of 3 RCTs showed that metoclopramide reduced headache pain (table), nausea (odds ratio [OR] 4.20, 95% CI 1.70 to 10.36), and the need for rescue drugs (OR 0.21, CI 0.05 to 0.85) more than placebo. The groups did not differ for complete relief of headache (see table at www.evidence-basedmedicine.com), relapse of migraine, or restlessness. 2 RCTs found that metoclopramide reduced headache pain less than other AEs (chlorpromazine and prochlorperazine) (table). The groups did not differ for complete relief of headache (see table at www.evidence-basedmedicine.com), pain scores on the VAS, relapse of migraine, nausea, or adverse events. Pooled results showed that patients in the metoclopramide groups were more likely to require rescue drugs than those in the other AE groups (OR 2.08, CI 1.04 to 4.17). Of the 2 RCTs that compared metoclopramide with non-AEs, 1 RCT showed no difference between metoclopramide and sumatriptan for complete relief of headache (see table at www.evidence-basedmedicine.com), reduction in headache pain (see table).

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Metoclopramide for acute migraine

<table>
<thead>
<tr>
<th>Outcomes at 1 week</th>
<th>Number of trials (n)</th>
<th>Comparison</th>
<th>Weighted event rates</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in headache pain</td>
<td>3 (185)</td>
<td>Metoclopramide v placebo</td>
<td>56% vs 31%</td>
<td>80% (1 to 221)</td>
<td>4 (3 to 44)</td>
</tr>
<tr>
<td>Complete relief of headache</td>
<td>1 (62)</td>
<td>Combination metoclopramide v other AMs</td>
<td></td>
<td>0.39 (0.18 to 0.87)</td>
<td>7.79 (1.79 to 33.86)</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; weighted event rates, RBI, NNT, and CI calculated from data in article using a random effects model. †Not significant.