**Review: Amoxycillin and folate inhibitors are as effective as newer, more expensive antibiotics for acute sinusitis**

**de Ferranti SD, Ioannidis JP, Lau J, Leonardi W, Varma M. Are amoxycillin and folate inhibitors as effective as other antibiotics for acute sinusitis? A meta-analysis. BMJ. 1998 Sep 5;317:625-6.**

**Questions**
In patients with acute sinusitis, what is the effectiveness of antibiotics on the natural course of disease? What is the effectiveness of amoxycillin or folate inhibitors compared with newer, more expensive antibiotics?

**Data sources**
Studies were identified in MEDLINE (1966 to May 1998) using terms for antibiotic classes and sinusitis; hand searches were done in Excerpta Medica, abstracts of the international conference on antimicrobial agents and chemotherapy (1995 to 1997), and references of trials, reviews, and special issues were reviewed.

**Study selection**
Studies were selected if they were randomised controlled trials that compared amoxycillin or a folate inhibitor with another broad-spectrum antibiotic or compared antibiotics with placebo in patients with acute sinusitis or an acute exacerbation of chronic sinusitis. Studies were excluded if they were of subacute or chronic sinusitis or compared doses of nonantimicrobial drugs.

**Commentary**
This review by de Ferranti and colleagues confirms that antibiotics provide a somewhat greater benefit for acute sinusitis than does placebo. 7 patients need to be treated with any antibiotic to "cure" one additional patient within 48 hours. Most patients (69%) recovered spontaneously, even without antibiotics. In this review, the outcomes measured include both signs and symptoms, which are not defined clearly enough to allow us to judge their clinical relevance. Furthermore, the trials may generally represent only severely ill patients. Diagnosis depended on radiologic evidence or culture of sinus aspirations for some patients. One study that used inclusion criteria used by most family doctors (sinusitis-like symptoms) showed no benefit from antibiotics (85% of both controlled- and antibiotic-group patients recovered in 10 days).

In addition, the study shows that modern antibiotics (co-amoxiclav, pivampicillin, amoxicillin, chloramphenicol, co-trimoxazole, cefaclor, cefixime, cefuroxime, azithromycin, clarithromycin, roxithromycin, and newer antibiotics) are more effective than placebo in achieving clinical cure (relative risk [RR] 1.33, 95% CI 1.02 to 1.74), but new antibiotics were not more effective than amoxycillin (RR 1.04, CI 0.98 to 1.11) or a folate inhibitor (RR 1.01, CI 0.88 to 1.17).

**Conclusions**
In patients with acute sinusitis, any antibiotic reduces clinical failure. Newer, more expensive antibiotics are not superior to amoxycillin or folate inhibitors.

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*P values calculated from data supplied by author.

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**Any antibiotic vs placebo and new antibiotics vs amoxycillin or folate inhibitors for acute sinusitis 48 hours after end of treatment**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Weighted event rates</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any antibiotic</td>
<td>Placebo</td>
<td>13%</td>
<td>28%</td>
</tr>
<tr>
<td>Clinical failure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New antibiotics</td>
<td>Amoxycillin</td>
<td>8.6%</td>
<td>9.5%</td>
</tr>
<tr>
<td>New antibiotics</td>
<td>Folate inhibitors</td>
<td>13.3%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

**Abbreviations defined in Glossary:** RRR, NNT, and CI calculated from data supplied by author.

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