Antibiotics as an adjunct to phenol matrixectomy did not decrease healing time of ingrown toenails


**Question**
In patients with infected ingrown toenails, is the addition of oral antibiotics to phenol matrixectomy more effective than matrixectomy alone in decreasing healing time?

**Design**
Randomized (allocation concealed*), unblinded,* controlled trial with follow-up to healing.

**Setting**
Outpatient clinic in San Antonio, Texas, United States.

**Patients**
154 patients who were 10 to 60 years of age (mean age 21 y, 59% men) and had locally infected ingrown nails of the big toe (nail borders exhibited paronychia, granulation tissue, edema, and the presence of exudates). Exclusion criteria were immunocompromised states (long-term steroid use, diabetes mellitus, collagen vascular disease, or HIV infection), cellulitis proximal to the interphalangeal joint, or peripheral vascular disease. 148 patients (96%) were included in the analysis.

**Intervention**
Patients were allocated to a 1-week course of oral antibiotics (cephalexin, 500 mg, 4 times/d) and simultaneous phenol matrixectomy at the initial visit (AMs) (n = 53), oral antibiotics at the initial visit and phenol matrixectomy 1 week later (AMw) (n = 51), or phenol matrixectomy at the initial visit (M) (n = 50).

**Main outcome measure**
Healing time (interval between matrixectomy and resolution of drainage and inflammatory changes around the nail border).

**Main results**
Healing occurred sooner among patients in the AMs group than among patients in the AMw group (P < 0.04) (Table). Healing times did not differ between the AMs and M groups (P = 0.50)† (Table).

**Conclusion**
In patients with infected ingrown toenails, the addition of oral antibiotics to matrixectomy did not decrease healing time more than did matrixectomy alone.

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For correspondence: Dr. K.A. Trombello, Ankle and Foot Clinic, 1114 Broadway Street, Longview, WA 98665, USA. FAX 360-577-1871.

*See Glossary.
†P value calculated from data in article.

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Healing times (wk)</th>
<th>Mean difference (95% CI)</th>
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</thead>
<tbody>
<tr>
<td>AMs vs AMw</td>
<td>1.9 vs 2.3</td>
<td>0.4 (0.1 to 0.7)</td>
</tr>
<tr>
<td>AMs vs M</td>
<td>1.9 vs 2.0</td>
<td>0.1 (−0.2 to 0.4)§</td>
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</tbody>
</table>

‡CI defined in Glossary; mean difference and CI calculated from data in article.
§Not significant.

**Commentary**
Reyzelman and colleagues provide a cogent argument for avoiding systemic antibiotics when using chemical matrixectomies to manage infected ingrown toenails. Healing time did not differ with phenol matrixectomies and nail border removal with or without concurrent administration of a typical oral regimen of cephalixin. Indeed, they found that healing time is prolonged if antibiosis is started a week before phenol matrixectomy. The authors correctly point out that unnecessary antibiosis contributes to clinical antibiotic resistance (and superinfection) and adds to treatment cost.

Chemical (phenol) matrixectomy, as described by Dagnall (1), has been done with minor variations for over 100 years with good success. On the basis of a meta-analysis of randomized and quasi-randomized trials, Rounding and Hulm (2) concluded that phenol treatment is more effective in preventing recurrence than is surgical excision alone but it carries an increased risk for postoperative infection.

Given these earlier results, one must be mildly concerned that in the study by Reyzelman and colleagues, 2 of 47 patients (4.3%) who had chemical matrixectomies alone, compared with no patients in the antibiotic-treated group, had postoperative infections. Nevertheless, phenol matrixectomy without antibiotics can be considered an appropriate technique for the treatment of moderately infected ingrown toenails.

Allan S. Goldberg, DPM
St. John’s Episcopal Hospital-South Shore
Far Rockaway, New York, USA

**References**