

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

Reyzelman AM, Trombello KA, Vayser DJ, Armstrong DG, Harkless LB. Are antibiotics necessary in the treatment of locally infected ingrown toenails? Arch Fam Med. 2000 Sep/Oct;9:930-2.

## 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 (AM<sub>s</sub>) ( $n = 53$ ), oral antibiotics at the initial visit and phenol matrixectomy 1 week later (AM<sub>w</sub>) ( $n = 51$ ), 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 AM<sub>s</sub> group than among patients in the

AM<sub>w</sub> group ( $P < 0.04$ ) (Table). Healing times did not differ between the AM<sub>s</sub> 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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\*See Glossary.

† $P$  value calculated from data in article.

## Antibiotics plus simultaneous phenol matrixectomy (AM<sub>s</sub>), antibiotics plus matrixectomy 1 week later (AM<sub>w</sub>), and matrixectomy (M) alone for ingrown toenails‡

Comparison	Healing times (wk)	Mean difference (95% CI)
AM <sub>s</sub> vs AM <sub>w</sub>	1.9 vs 2.3	0.4 (0.1 to 0.7)
AM <sub>s</sub> vs M	1.9 vs 2.0	0.1 (−0.2 to 0.4)§

‡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 cephalexin. Indeed, they found that healing time is prolonged if antibiotics is started a week before phenol matrixectomy. The authors correctly point out that unnecessary antibiotics 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.

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## References

- Dagnall JC. A description of toenail matrix phenolisation 44 years before Boll's 1945 paper. The Foot. 1991;1:51-5.
- Rounding C, Hulm S. Surgical treatments for ingrowing toenails. Cochrane Database Syst Rev. 2000;(2):CD00154.