

Zinc acetate lozenges reduced the duration and severity of symptoms of the common cold

Prasad AS, Fitzgerald JT, Bao B, Beck FW, Chandrasekar PH. Duration of symptoms and plasma cytokine levels in patients with the common cold treated with zinc acetate. A randomized, double-blind, placebo-controlled trial. *Ann Intern Med.* 2000 Aug 15;133:245-52.

QUESTION

In patients with a common cold, do zinc acetate lozenges reduce the duration and severity of symptoms?

DESIGN

Randomized (allocation concealed*), blinded (patients and outcome assessors),* placebo-controlled trial with 12-day follow-up.

SETTING

Detroit Medical Center, Detroit, Michigan, United States.

PATIENTS

50 volunteers (mean age 37 y, 63% men) who were recruited within 24 hours of developing symptoms of the common cold and had ≥ 2 of the following 10 symptoms: cough, headache, hoarseness, muscle ache, nasal drainage, nasal congestion, scratchy throat, sore throat, sneezing, or fever. Exclusion criteria were pregnancy, immunodeficiency disorder, chronic illness, or previous use of zinc lozenges to treat the common cold. 48 patients (96%) completed the trial.

INTERVENTION

25 patients were allocated to zinc lozenge, containing 12.8 mg of zinc acetate to be

taken every 2 to 3 hours while awake as long as they had cold symptoms. 23 patients were allocated to placebo to be taken in the same way as the zinc lozenges. All patients were instructed to take no other cold preparations during the study period.

MAIN OUTCOME MEASURES

The primary outcome was the average duration of cold symptoms. Secondary end points were plasma levels of zinc and pro-inflammatory cytokines.

MAIN RESULTS

Mean overall duration of cold symptoms was shorter in the zinc group than in the placebo group (Table). The specific symptoms that were of shorter duration in the zinc group were cough (3.1 vs 6.3 d, $P = 0.001$) and nasal discharge (4.1 vs 5.8 d, $P = 0.025$). Patients in the zinc group had decreased total severity scores for all symptoms (2.7 vs 5.4,

$P = 0.002$). The difference in pro-inflammatory cytokine levels was greater in the zinc group than in the placebo group, but this difference was not significant. Plasma zinc level was higher in the zinc group (between-group difference in mean change from baseline 3.7 $\mu\text{mol/L}$, 95% CI 2.2 to 5.0).

CONCLUSION

In patients with a common cold, zinc acetate lozenges reduced the duration and severity of cold symptoms.

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*See Glossary.

Zinc acetate lozenge vs placebo for the common cold

Outcome	Zinc	Placebo	Mean difference (95% CI)†
Duration of cold symptoms (d)	4.5	8.1	-3.6 (-4.6 to -2.6)

†CI calculated from data in article.

COMMENTARY

Evidence of the efficacy of treatments for the common cold are important given the morbidity and costs to society resulting from coryzal illness. Zinc has antiviral properties in vitro, and zinc lozenges were proposed to treat colds following the report of the trial by Eby and colleagues in 1984 (1). A recent meta-analysis suggests, however, that there is not enough evidence of efficacy and that any benefit will probably be modest (2).

The study by Prasad and colleagues provides important additional evidence and suggests that zinc lozenges may provide benefit for both symptom duration and symptom severity. Nevertheless, several limitations are inherent in this study, particularly its size. The trial was underpowered to detect important apparent differences in blinding (3), which is especially difficult with zinc. The trial also uses a university volunteer sample, which makes the results difficult to extrapolate to routine settings. Further, the benefit in terms of symptom severity is modest: By day 4, the difference in scores was < 3—

equivalent to 3 symptoms being rated mild rather than moderate out of a total of 10 symptoms—and most benefit occurred after day 4 when symptoms are mild. Large, adequately blinded trials in representative primary care settings are needed to more firmly establish the place of zinc in treatment of the common cold.

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References

1. Eby GA, Davis DR, Halcomb WW. Reduction in duration of common colds by zinc gluconate lozenges in a double-blind study. *Antimicrob Agents Chemother.* 1984;25:20-4.
2. Marshall I. Zinc for the common cold. *Cochrane Database Syst Rev.* 2000;(2):CD 001364.
3. Desbiens NA. Lessons learned from attempts to establish the blind in placebo-controlled trials of zinc for the common cold. *Ann Intern Med.* 2000 Aug;133:302-3.