Zinc lozenges reduced the duration of common cold symptoms


Objective
To determine whether zinc gluconate lozenges received during the first day of a cold are effective and safe for reducing common cold symptoms.

Design
Randomized, double-blind, placebo-controlled trial.

Setting
An outpatient department of a U.S. tertiary care hospital.

Patients
100 Cleveland Clinic staff members (mean age 38 y, 81% women, 76% white) who had cold symptoms for ≤ 24 hours, ≥ 2 symptoms (cough, headache, hoarseness, muscle ache, nasal drainage or congestion, scratchy or sore throat, or fever) and were not pregnant or immune deficient.

Intervention
4.4-g, hard-candy lozenges that were composed of sucrose, corn syrup, glycine, lemon and lime oils, and either zinc gluconate trihydrate, 13.3 mg, or placebo. 50 adults were assigned to zinc lozenges and 50 to placebo lozenges. Lozenges were to be taken every 2 hours until symptoms were gone. Acetaminophen was allowed; other medications were discouraged.

Main outcome measures
Self-reported symptoms recorded daily for up to 18 days, amount of medication and lozenges used, and days to resolution of symptoms.

Main results
Analysis was by intention to treat. The median time to resolution of all symptoms was 4.4 days in the zinc group compared with 7.6 days in the placebo group (P < 0.001). The difference in time to resolution of all but 1 mild symptom showed similar results (3.7 vs 7.5 d, P < 0.001). Patients in the zinc group had fewer days with throat symptoms, coughing, headache, hoarseness, nasal congestion, or nasal drainage (P ≤ 0.04 for all comparisons). The groups did not differ for other cold symptoms or use of acetaminophen. More patients in the zinc group reported nausea (P = 0.02) and found the taste of the lozenges to be unpleasant (P < 0.001). The groups did not differ for other adverse effects (vomiting, abdominal pain, diarrhea, constipation, mouth irritation, or dry mouth).

Conclusion
Zinc gluconate lozenges given to adults within 24 hours of the onset of cold symptoms reduced the duration of symptoms but tasted unpleasant and caused nausea.

Sources of funding: Cleveland Clinic Foundation; Quigley Corporation (lozenges); McNeil (acetaminophen); Becton Dickinson (thermometers).

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Commentary
A cure for the common cold is not yet at hand, but these 2 randomized controlled trials indicate that some relief is available. Mossad and colleagues showed that, if started within 24 hours of onset, zinc gluconate lozenges can shorten the duration of cold symptoms, whereas Hayden and colleagues found that ipratropium nasal spray reduced rhinorrhea. The patients enrolled in each of these studies were similar to patients with viral upper respiratory tract infections commonly seen in medical practice. The ipratropium study excluded patients with fever (body temperature ≥ 39°C), allergies, asthma, or bronchitis; the zinc study excluded only patients who were pregnant or had known immune deficiency. Each study used a placebo group, and the ipratropium study used a "no treatment" group as well. The metallic taste of zinc could have made blinding difficult. However, Mossad and colleagues showed that only about half the patients correctly guessed whether they were taking zinc lozenges or placebo, and the participants in the zinc group did not stop treatment prematurely because of side effects. Hayden and colleagues also used objective measures of rhinorrhea (weight of nasal discharge). In each study, the patients who received active treatment had baseline characteristics that were similar to those of the patients who received placebo, compliance was good, follow-up was nearly complete, and patients were appropriately analyzed in the group to which they were assigned (i.e., intention-to-treat analysis). Thus, the studies rate high marks for basic research methods.

In the ipratropium study, patients had cold symptoms and at least moderate rhinorrhea for ≤ 36 hours; therefore, the conclusions of the study are applicable to patients in the rhinorrheal stage of a cold. Ipratropium nasal spray reduced rhinorrhea and sneezing but not nasal congestion. It would have been helpful if Hayden and colleagues had specifically asked the patients about other common cold symptoms, such as malaise, sore throat, and coughing. Because malaise and sore throat usually precede rhinorrhea, the global improvement that Hayden and colleagues described probably refers primarily to reduced rhinorrhea.

The adverse effects of anticholinergic medications are well known, and Hayden and colleagues were remiss for not asking study participants about the specific expected side effects of ipratropium nasal spray. It is likely that they underestimated the prevalence of the adverse effects of ipratropium because they simply recorded (Continued on page 205)
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Evid Based Med 1996 1: 204
doi: 10.1136/ebm.1996.1.204

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