Intranasal ipratropium bromide reduced rhinorrhea and improved cold symptoms


Objective
To determine whether intranasal ipratropium bromide is effective and safe for reducing common cold symptoms.

Design
6-day, randomized, double-blind, placebo-controlled trial.

Setting
3 U.S. university health services.

Patients
411 adults (mean age 22 y, 91% white) with at least moderate rhinorrhea and documented nasal discharge (for < 36 hours) associated with a cold. Exclusion criteria included asthma, chronic respiratory disease, allergic rhinitis, fever, or probable bacterial infection.

Intervention
Patients were allocated to nasal spray with ipratropium bromide, 0.06% in a buffered salt solution (2 sprays/nostril [84 μg] 3 times/d for 4 d) (n = 137), the same nasal spray without ipratropium (n = 137), or no medication (n = 137). No cold medications other than analgesics and antitussives were allowed.

Main outcome measures
The main outcome measure was a global assessment of overall improvement (report by patients of being better or much better). Rhinorrhea was monitored in the clinic hourly for the first 6 hours on day 1 and hourly for 3 hours on day 2. Symptoms were monitored for 4 days.

Main results
Analysis was by intention to treat. Ipratropium reduced rhinorrhea (P ≤ 0.01), weight of nasal discharge (P < 0.001), and sneezing (P < 0.05) but not nasal congestion. Overall improvement was reported at day 1 in 87% of the ipratropium group, 73% of the placebo group, and 57% of the untreated group. At day 5, 81% of the ipratropium group, 65% of the placebo group, and 18% of the untreated group reported overall improvement (P = 0.003). (This 17% absolute difference in improvement between the ipratropium and placebo groups means that 6 patients (95% CI, 4 to 16) would need to be treated with ipratropium (rather than placebo) for 4 days to result in improvement for 1 additional patient; the relative risk improvement was 26%, CI 9% to 47%*). Rates of nasal dryness (12% vs 4%), blood-tinged mucus (17% vs 4%), and headache (9% vs 2%) were greater in the ipratropium group than in the placebo group.

Conclusion
Patients who used nasal sprays that contained ipratropium bromide reported improved cold symptoms and less rhinorrhea but had more adverse effects than did patients who received placebo or no treatment.

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*Numbers calculated from data in article.


Commentary (continued from page 204)
them as they were spontaneously reported. On the other hand, Mossad and colleagues used both an open-ended question and categorical responses to identify the specific side effects of the zinc lozenges. Not surprisingly, patients reported more side effects when asked specifically about adverse effects of the zinc lozenges than when asked to respond to an open-ended question.

Compared with the placebo group, patients using this particular zinc gluconate-glycine complex had fewer days with cough, headaches, hoarseness, throat symptoms, nasal congestion, and nasal drainage. Previous clinical trials of zinc lozenges in the treatment of the common cold have shown conflicting results, which may partly attributable to the different formulations and doses used in the various studies. One other study (1) that used the same formulation showed similar results, but it would be more convincing to see the results replicated in other settings.

The benefits of zinc lozenges and ipratropium nasal spray are clinically important but are tempered by their adverse effects (unpleasant taste and nausea with zinc lozenges and nasal drying with ipratropium nasal spray). We do not know what the economic and epidemiologic effects of these treatments will be. Will they reduce work and school absenteeism or complications of colds? Will they affect transmission of cold viruses?

Ipratropium nasal inhalers for treating cold symptoms are now available by prescription at local pharmacies in the United States. 1 of 2 local health-food stores that I called stocked the zinc gluconate lozenges.

What do we tell our patients? If asked, I will tell mine that one particular formulation of zinc lozenges (but perhaps not other preparations) reduced the duration of colds by nearly half when they were started within 24 hours of the onset of symptoms; 3 lozenges should be dissolved in the mouth daily until symptoms resolve. To reduce the sneezing and rhinorrhea associated with the common cold, ipratropium nasal spray can be used, but patients should be told to titrate the number of sprays to prevent excessive nasal drying.

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Reference
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