intranasal steroids as our first-line treatment for allergic rhinitis.

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Antibiotics for Acute Bronchitis: A Meta-Analysis

Smucny JJ, Becker LA, Glazier RH, McIsaac W. Are antibiotics effective treatment for acute bronchitis? A meta-analysis. J Fam Pract 1998; 47:453-60.

Clinical question **Are antibiotics an effective treatment for acute bronchitis?**

Background Acute bronchitis is a common diagnosis in primary care and is often treated with antibiotics. Recently, increased antibiotic resistance, concern about cost, recognition of viral etiologies, and the risk of adverse effects have contributed to the growing consensus that antibiotic treatment for acute bronchitis is unnecessary. Clinical trials of acute bronchitis have demonstrated mixed results using patient-centered outcomes following antibiotic treatment.

Population studied The authors performed a meta-analysis of 9 studies with a total of 779 patients aged 8 years or older. The study subjects were otherwise healthy and had an acute productive cough without evidence of pneumonia. All of the studies were randomized, double-blinded, and placebo controlled and excluded patients who had any preexisting pulmonary conditions.

Study design and validity Studies were identified by English language–only searches of MEDLINE, EMBASE, and the Cochrane Controlled Trials Register, as well as a manual search of reference lists and the Science Citation Index. The authors used a standardized scoring system to assess the methodologic quality of the trials. They extracted the data and calculated summary outcome measures using a random-effects model. Although 9 studies were identified, they did not all use similar outcomes. As a result, the authors calculated each summary outcome using only a subset (3 to 6) of the trials. A sensitivity analysis, which examines bias in the way studies are excluded in a meta-analysis, was not performed. A heterogeneity test, which assesses the comparability of the included studies, was performed, but the results were not reported.

Outcomes measured The primary outcomes were patient-oriented: presence and duration of cough, activity limitation, feelings of illness, physician's assessment of improvement at 7 to 11 days, and adverse effects of antibiotic therapy.

Results Of 384 studies identified, only 9 met the authors' criteria for meta-analysis. Summary outcomes demonstrated that antibiotic treatment reduced the likelihood of cough at 7 to 11 days' follow-up (relative risk [RR] = 0.69; 95% confidence interval [CI], 0.49 - 0.98; number needed to treat [NNT] = 5) and improved the physician's clinical impression at 7 to 11 days' follow-up (RR for being unimproved = 0.5; 95% CI, 0.3 - 0.9; NNT = 18). Antibiotics also decreased the duration of productive cough by a weighted mean difference of 0.6 days (95% CI, -1.1 to -0.04 days). Treatment with antibiotics, however, did not significantly decrease activity limitation or feelings of illness. There was a nonsignificant increase in the incidence of adverse effects with antibiotic treatment. After reviewing the studies, the authors found no clear benefit of antibiotic therapy for any particular subgroup (those who smoke, are older than 55 years, have a presence of purulent sputum, and so forth).

As the authors note, this meta-analysis was limited by the lack of comparability of the trials and outcome measures. In addition, the limitation to studies written in English, the absence of a sensitivity analysis, and the strong possibility of reporting and publication bias (because the authors of the original studies did not report or publish nonsignificant findings) call the results of this meta-analysis into question.

Recommendations for clinical practice **Although this study demonstrated a marginal benefit of antibiotics on the presence and duration of cough in patients with acute bronchitis, the methodologic concerns, the risk of adverse effects of antibiotic treatment, and the global risk of increasing antibiotic resistance should continue to sway clinicians away from prescribing antibiotics for patients with acute uncomplicated bronchitis.**

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Horse-Chestnut Seed Extract for Chronic Venous Insufficiency

Pittler MH, Ernst E. Horse-chestnut seed extract for chronic venous insufficiency. Arch Dermatol 1998; 134:1356-60.

Clinical question **Does horse-chestnut seed extract (HCSE) reduce symptoms of chronic venous insufficiency?**

Background Chronic venous insufficiency (CVI) is a common medical problem that occurs in 10% to 15%

of men and 20% to 25% of women.[1] At least two thirds of leg ulcers have evidence of venous disease in the affected limb. The current standard medical therapy is the use of compression stockings, but patient compliance is often poor. HCSE is an oral herbal remedy commonly used for the treatment of CVI. The active component of HCSE is escin, which is believed to prevent leukocyte activation, one mechanism in the development of CVI.

Population studied This is a systematic review of 13 studies with 1083 total patients.

Study design and validity The reviewers systematically and comprehensively searched the medical literature through 1996, without restriction to language, for all randomized controlled trials of treatment with HCSE for CVI. Trial outcomes and the methodologic quality of trials were independently assessed using a standard instrument that considered randomization, the extent of blinding, withdrawals, and dropouts.[2] The authors clearly describe the way in which they identified potential studies, the review method used, and the quality scoring system. Studies were scored from 1 to 5, and studies scoring less than 3 were excluded. The authors had planned a meta-analysis (with pooling of results), but variations in devices used for assessment and insufficient reporting of data prevented this method.

Outcomes measured The primary outcomes varied among the studies, and included reduction in leg volume (6 studies), capillary filtration coefficient (1), calf or ankle circumference (4), and reduction in CVI symptoms, such as pain, pruritus, and fatigue (2).

Results Sixteen randomized controlled trials were identified, and 13 studies with 1083 total patients met the reviewers' inclusion criteria. Of these, 8 were placebo controlled, and 5 compared HCSE with a reference medication. One study was published in *Lancet*; the others were written in languages other than English. The placebo-controlled trials suggest a significant decrease in lower-leg volume or CVI symptoms among patients using HCSE standardized to 100 to 150 mg escin: 7 of 8 trials reported a statistically significant improvement. The reduction in leg volume was modest, the largest being 114 mL in the HCSE group compared with 1 mL for placebo in 1 study ($P = .009$). The studies were all short term, ranging from 2 to 12 weeks in duration. The methods by which leg volume was measured were not described, and presumably varied from study to study. Adverse drug reactions were only poorly documented in 8 of 13 studies, and included gastrointestinal symptoms, dizziness, nausea, and headache. When adverse reactions were reported, the frequency was 0.9% to 3.0%.

Recommendations for clinical practice **It appears that HCSE may have some effect in reducing short-term symptoms of CVI, but further well-designed studies of longer duration are necessary to answer this question definitively. Because CVI is a chronic disease, more thorough evaluations of the safety of HCSE are important before we actively recommend it to our patients.**

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Treating *Helicobacter pylori* Infection in Nonulcer Dyspepsia

McColl K, Murray L, El-Omar E, et al. Symptomatic benefit from eradicating *helicobacter pylori* infection in patients with nonulcer dyspepsia. N Engl J Med 1998: 339:1869-74.

Clinical question **Does eradicating *Helicobacter pylori* infection in patients with nonulcer dyspepsia improve symptoms?**

Background Dyspepsia affects approximately 30% of the population and accounts for 2% to 5% of all visits to family physicians. Endoscopy of these patients usually reveals no ulcer, and they are classified as having nonulcer dyspepsia (NUD). There has been speculation that *H pylori* may contribute to NUD and that treatment of the bacteria could improve symptoms. Studies on the affect of eradication of *H pylori* infection in patients with NUD have shown conflicting results.

Population studied Participants in this British study were referred by their primary care physician to a dyspepsia clinic after having symptoms for at least 4 months. Dyspepsia was defined as intermittent or persistent pain or discomfort in the upper abdomen or lower chest, heartburn, nausea, a feeling of postprandial fullness, or any other symptoms related to the upper gastrointestinal tract. All participants had 2 positive test results for *H pylori* and no evidence of peptic ulcer disease on endoscopy. Patients were excluded if they had previously been given a diagnosis of peptic ulcer disease, had evidence of esophagitis on endoscopy, were taking nonsteroidal anti-inflammatory drugs other than low-dose aspirin, had undergone gastric resection, were pregnant, or had previously been treated for *H pylori* infection. Out of 916 patients screened, 330 were eventually enrolled in the study.