POEMs

Patient-Oriented Evidence that Matters

Each month, the POEMs editorial team reviews more than 80 journals of interest to primary care physicians, identifying the articles you have to know about to stay up to date. We call these articles POEMs (Patient-Oriented Evidence that Matters) because they deal with common primary care problems, report outcomes that matter to patients, and have the potential to change the way we practice. The 8 most important articles are critically appraised each month by a team of more than 50 reviewers who make a recommendation for clinical practice. The collected reviews of the POEMs are available at the Journal's *World Wide Web site at http://jfp.msu.edu. Additional POEMs and other related evidence-based material are published in a monthly newsletter called* Evidence-Based Practice, *available through subscription (1-800-451-3794; fax 1-203-406-4603) or via the Web site at http://jfp.msu.edu/ebp.htm*

Acute Sinusitis and the Common Cold

Puhakka T, Makela MJ, Alanen A, et al. Sinusitis in the common cold. J Allergy Clin Immunol 1998; 102:403-8.

Clinical question **How often is the common cold complicated by acute sinusitis?**

Background Patients with upper respiratory infection symptoms (especially those with purulent rhinitis) are frequently treated with antibiotics for suspected bacterial sinusitis. As part of a study of intranasal fluticasone propionate in the treatment of the common cold, the investigators assessed the occurrence, clinical presentation, and outcome of radiographically confirmed sinusitis.

Population studied Two hundred young adults with symptoms of the common cold were enrolled in this Finnish study. Recruitment was by advertisements in newspapers and posters in student canteens. Subjects were healthy, white volunteers with a mean age of 24 years. Exclusion criteria included a history of allergic rhinitis, recurrent or chronic respiratory illness, structural nasal abnormalities, pregnancy, or antibiotic use within the previous 4 weeks. Subjects were enrolled in the study within 24 to 48 hours of onset of symptoms.

Study design and validity This was a prospective cohort study in which subjects with symptoms of the common cold were followed daily for 21 days after entry. Results of the randomized placebo-controlled trial of intranasal fluticasone propionate in the prevention of sinusitis are being published separately. Clinical examinations and sinus X-rays were performed on days 1, 7, and 21, and patients maintained a daily symptom diary for the entire study period. Data for these analyses were obtained from 98 subjects in the placebo group of the drug study.

The sinus films were interpreted after the study period independently by 3 radiologists. Symptom severity was assessed on a 4-point scale (absent, mild, moderate, severe) and a mean severity score was calculated for days 1 to 6. The etiologic role of 10 viruses and 5 bacteria was investigated by the use of cultures, antigen detection, serology, rhinovirus polymerase chain reaction, and bacterial antibodies of nasopharyngeal aspirates.

Outcomes measured Numerous outcomes were measured: radiographically confirmed sinusitis; the frequency, severity and duration of various symptoms of the common cold or sinusitis; evidence of viral or bacterial pathogens; and attainment of clinical recovery from the common cold during the study period.

Results Two hundred ninety-four plain radiographs of the paranasal sinuses of 98 subjects were interpreted. The X-rays of 39% of subjects showed sinusitis on day 7. Purulent rhinitis was more common during days 1 to 6 in subjects with sinusitis on day 7 than in those without sinusitis (95% vs 77%, $P = .02$). This was the only significant difference in either the frequency or duration of symptoms between subjects with sinusitis and those without sinusitis on day 7. No subjects reported unilateral maxillofacial pain or pain in the upper teeth during the entire 21-day study period. This is important because these symptoms are considered specific for bacterial sinusitis. Viral infection was detected in 82% of subjects with sinusitis and in 63% of patients without sinusitis ($P = .05$). No significantly increased levels of antibodies to bacteria were detected in the sinusitis group. All 98 patients with common cold symptoms recovered clinically within 21 days without the use of antibiotics.

Recommendations for clinical practice **Young, healthy patients with the common cold frequently develop purulent rhinitis (77% to 95%) and in nearly 40% there will be radiographic evidence of acute sinusitis. However, the great majority (80%) have viral infections, and all of the patients in this study recovered without the use of antibiotics. These results, which should minimize unnecessary sinus radiography and antibiotic therapy, are limited to**

patients with the common cold and no signs of bacterial sinusitis. The presence of unilateral maxillofacial pain, pain in the upper teeth, lack of response to nasal decongestants, and "double-sickening" (initial improvement followed by a worsening in symptoms) may require an alternative diagnostic approach.[1]

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Corneal Abrasions Need Not Be Patched

Flynn CA, D'Amico F, Smith G. Should we patch corneal abrasions? A meta-analysis. J Fam Pract 1988; 47:264-70

Clinical question **Should we patch corneal abrasions?**

Background Traditionally, the treatment of corneal abrasions has included the application of an eye patch. In recent years there has been an increased awareness that leaving the eye unpatched may be a viable option. This analysis was done to determine whether patching is a useful treatment for corneal abrasions.

Population studied The authors identified 7 studies enrolling a total of 550 patients. The clinical trials met the following criteria: (1) subjects were at least 6 years old; (2) acute, simple corneal abrasions were due to either trauma or removal of a foreign body; (3) abrasions were unrelated to infection or contact lens use (these are normally treated without patching because of the increased risk of *Pseudomonas* infection); (4) eye patch intervention of at least 24 hours' intended use was compared with using no eye patch; (5) the trial was randomized and controlled; (6) outcomes measured were time to resolution of the abrasion, pain, and complication rate. Patients were primarily from emergency departments and eye hospitals. None were specifically from primary care settings.

Study design and validity A thorough search of MEDLINE (1966-1997) and the Science Citation Index was performed by 2 of the authors independently, with both obtaining the same search results. The only attempt to locate unpublished data was through "authors and local ophthalmologists"; they found none. One paper was excluded because it was written in a language other than English. The results of 2 studies were not presented in a format suitable for statistical analysis; thus they were included in the systematic review but not the meta-analysis. Two other studies were excluded from statistical analysis because of identical all-or-none responses in the patch and no-patch groups: 1 study had a 0% healing rate in both groups on day 1; the other had a 100% resolution of the abrasion in both the experimental and control groups at day 2. In the end, only 4 studies (n = 152) could be included in the analysis at day 1, and 3 studies (n = 246) at day 2. Because of the small sample size, a small difference between the 2 groups (favoring either the patch or no-patch group) may exist. Since the results were analyzed as a dichotomous variable (healing versus no healing), pooling of studies into a meta-analysis may not overcome this possibility. Studies included in the meta-analysis met the statistical criteria for homogeneity (their findings were similar).

Validity assessments of individual studies done by the authors were not rated on the basis of quality. Blinding of treatment assignment or outcomes assessment was not done in 6 of the 7 studies (in a practical sense, accomplishing this would be difficult). Only 2 studies identified the method of randomization, and only 1 of 7 reported an intention-to-treat analysis. All subjects were treated with an antibiotic, and 5 of 7 studies also used a cycloplegic. Four studies used a slit lamp to diagnose and assess healing of the abrasion, while 3 used fluorescein staining.

Outcomes measured The primary outcomes measured were healing rates and degree of pain. The secondary outcome measured was complication rate.

Results When healing rates were pooled, no statistically significant differences were found between the no-patch and patch groups on day 1 (relative risk [RR] = 0.87; 95% confidence interval [CI], .68-1.13) or on day 2 (RR = .90; 95% CI, .75-1.10). Five of the 7 studies found no difference in healing rates between the 2 groups, while 2 studies favored not patching.

In 4 of the 6 studies that evaluated pain, there was no difference between the 2 groups. Two of the 6 studies found significantly less pain in the no-patch group. There was no difference in complication rate between the patch and no-patch groups.

Recommendations for clinical practice **This analysis found no evidence to support the current practice of patching corneal abrasions. Given the**