When Should Patients Seek Care for Sore Throat?

Fine and colleagues' article in this issue (1) adds an interesting variation on the "sore throat question." Whether to treat or test patients with sore throat continues to generate differing opinions. International guidelines suggest 3 strategies: neither test nor treat anyone, test patients with a substantial probability of group A streptococcal (GAS) pharyngitis and treat those who test positive, or test some patients with a modest probability and empirically treat those with a higher probability (2). To frame Fine and colleagues' article, we will review pharyngitis in adolescents and young adults and the factors to consider before examining, testing, or treating (3). We will focus only on patients at least 15 years of age because the article excludes preadolescents.

All guidelines and debates assume acute pharyngitis. The guidelines and recommendations apply only to patients who have had symptoms for fewer than 3 days. If symptoms persist or worsen, then the patient no longer has acute pharyngitis; therefore, we should use a different diagnostic and therapeutic approach.

Why do we care about pharyngitis? Several European guidelines consider acute pharyngitis a self-limited problem that does not require testing or antibiotic treatment. Current U.S. guidelines focus primarily on treating group A β-hemolytic streptococcal pharyngitis with appropriate antibiotics (4, 5).

Adult pharyngitis has different microbiological causes than preadolescent pharyngitis. Although group A β-hemolytic streptococcal pharyngitis is predominant in preadolescents, in older patients we should also consider group C streptococcal pharyngitis and *Fusobacterium necrophorum.* Yet, all published guidelines focus medical decision making solely on GAS pharyngitis.

Treating GAS pharyngitis has 5 potential benefits. In adults, penicillin decreases symptom duration by 2 days in patients with Centor scores of 3 or 4 (6). A similar study in preadolescents showed no clinical benefit (7). In both groups, antibiotics decrease contagion; thus, treatment has a public health benefit. Treating pharyngitis with antibiotics decreases suppurative complications, especially peritonsillar abscess (8), and decreases the risk for rheumatic fever. Although the incidence of acute rheumatic fever has decreased dramatically in the United States and western Europe, it still occurs and causes important illness. Finally, but rarely, untreated streptococcal pharyngitis can cause death, primarily from the streptococcal shock syndrome.

Why might one consider treating group C streptococcal pharyngitis or *Fusobacterium* pharyngitis? Antibiotics have a modest effect on the duration of group C pharyngitis (6) and should decrease suppurative complications that occur from group C and *Fusobacterium* pharyngitis. Group C streptococcal pharyngitis can result in peritonsillar abscess, whereas *Fusobacterium* pharyngitis can cause peritonsillar abscess or the more serious Lemierre syndrome.

Fine and colleagues' article emphasizes decreasing clinic visits by focusing on patients with the lowest probability of GAS pharyngitis. This strategy parallels guidelines from the Infectious Diseases Society of America (4) and American College of Physicians (5) for adult patients with acute pharyngitis. Both recommend neither testing nor treating patients with a low probability of GAS pharyngitis. The 2 guidelines use a Centor score less than 2 as sufficient clinical evidence to treat symptomatically and not test for GAS pharyngitis.

Fine and colleagues' model provides a probability of GAS pharyngitis based solely on 2 history questions and knowledge of the current local prevalence of GAS pharyngitis over the previous 2 weeks. This model is similar to one that we developed in the 1980s—rational decision making based on history: adult sore throats (9). In that model, we used 3 variables: history of fever, cough, and difficulty swallowing. However, we gathered the data by using a modified Likert scale, with each historical variable being graded as absent, mild, moderate, or severe.

Fine and colleagues' article aims to decrease "unnecessary" emergency department and outpatient clinic visits by using this new model. The goals are admirable on several levels. Reducing the number of visits for adult patients with sore throat will save health care costs and probably decrease unnecessary antibiotic use. Data show that physicians often do not follow guidelines recommending against antibiotic use for adult patients with low probability for pharyngitis (10). Many clinics and emergency departments have protocols that contradict published guidelines for these low-probability patients. In fact, the data used to develop the new model come from such a protocol.

One must ask what percentage of patients will download an application that advises them on seeking care for sore throat. How often would someone need this application? This new model would require an application because one cannot estimate probabilities without adjusting for prevalence.

Biosurveillance would probably add to health care costs. This technique would require many GAS cultures around the country. What data would we use for smaller communities?

Fine and colleagues slightly overestimate the specificity of their model. Derivation models almost always give better results than validation data sets. We should use the specificity that they found in their validation data as a more accurate estimate of how this model would work in the future.

Although the goals are admirable, the approach does not seem practical or cost-saving. We have more practical strategies for decreasing costs for patients with sore throat.

First, we should encourage a change in testing protocol. Too many clinics and emergency departments test every patient before performing a targeted examination. Because the examination takes less than 5 minutes, one could decrease test use by approximately 45% if protocols avoided testing patients with a very low risk for GAS pharyngitis (11). We can also improve pharyngitis treatment and decrease costs by using recommended generic antibiotics rather than more expensive choices.

Any strategy for cost reduction must include an important caveat. Acute pharyngitis has a typical duration of 3 to 5 days. Patients clinically improve each day. We should clarify that the evaluation of patients whose symptoms have worsened requires a different approach. Such patients have a separate differential diagnosis that physicians should consider; therefore, we should always caution our patients that they should return if their symptoms—especially fever, rigors, sweats, or unilateral neck swelling—worsen.

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