

Avoiding Sore Throat Morbidity and Mortality: When Is It Not "Just a Sore Throat?"

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Sore throat consistently ranks in the top 10 reasons for ambulatory care visits. We see this symptom so often that our vocabulary even includes the phrase "just a sore throat." For more than 50 years, physicians have considered group A beta-hemolytic streptococcus the only important cause of sore throat, because it can lead to acute rheumatic fever. Although we know that other organisms can also cause sore throat, disease management guidelines ignore them because experts believe those organisms cause self-limited symptoms without serious sequelae.^{1,2}

These guidelines have driven many physicians to use algorithms for sore throat management, which has resulted in many offices, urgent care centers, and emergency departments using programmed evaluation and management strategies for patients with sore throat. Often, the rapid strep test is ordered routinely for patients with sore throat, rather than basing the decision to test on a targeted history and physical examination. This strategy results in patients being diagnosed as having or not having strep throat, which implies that antibiotics are not needed if the patient does not have strep throat.

We encourage physicians, residents, and students to learn the differential diagnosis of worsening pharyngitis, including non-group A streptococcus (especially group C), untreated group A streptococcus (especially with false-negative rapid testing), infectious mononucleosis, acute human immunodeficiency virus infection, peritonsillar abscess, and Lemierre syndrome.^{3,4} We recommend remembering the natural history of "just a sore throat," which is resolution of symptoms in three to five days. When the

patient's symptoms persist or worsen, the diagnosis no longer fits this category, and a more careful diagnostic and therapeutic approach is required.

Fusobacterium necrophorum, a newly recognized bacterial cause of pharyngitis, can result in a potentially devastating suppurative complication called Lemierre syndrome, which usually begins with a sore throat that improves over the first four to five days.⁵ The patient then has a recurrence of symptoms, with the addition of bacteremic symptoms including rigors, fever, and night sweats. Patients also develop suppurative internal jugular thrombophlebitis and metastatic infections, especially in the lungs, joints, or brain. Patients with Lemierre syndrome have an estimated mortality of 5 percent, with significant short- and long-term morbidity.⁶

Lemierre syndrome occurs most often in adolescents and young adults (ages 15 to 30 years), and *Fusobacterium* pharyngitis occurs predominantly in the same age group.⁶ A Lemierre syndrome variant can also occur before adolescence; however, it rarely starts with a sore throat.

No laboratory method for diagnosing *Fusobacterium* pharyngitis is readily available. *F. necrophorum* is a gram-negative anaerobic bacterium that is difficult to grow on routine media from throat swabs. Blood cultures grow the organism, but identification is slow. Many Lemierre syndrome diagnoses occur after the blood cultures become positive and after complications have occurred.

Fusobacterium pharyngitis cannot be routinely diagnosed, so we cannot recommend antibiotic treatment for preventing Lemierre syndrome. We believe that following the American College of Physicians/Centers for Disease Control and Prevention guidelines endorsed by the American Academy of Family Physicians would decrease the risk of Lemierre syndrome in adolescents and young adults.⁶ Using these guidelines, physicians can choose to prescribe antibiotics for patients with a pharyngitis score ►

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3 or 4 (three or four of the following: fever, absence of cough, tender anterior cervical lymph nodes, tonsillar exudate).¹ Penicillin remains the drug of choice because most *Fusobacterium* infections have in vitro sensitivity to penicillins but not to macrolides.

Early diagnosis of Lemierre syndrome improves outcomes.⁷ The organism is susceptible to many antibiotic combinations. Most physicians recommend clindamycin (Cleocin) or a combination of penicillin and metronidazole (Flagyl).

How should this information change your practice? Physicians do not need to change their approach to acute pharyngitis for patients who present within two days of symptom onset, nor should they prescribe antibiotics when they are not indicated. However, we urge all physicians to reconsider their approach to patients who have persistent or worsening symptoms, and to recognize when the diagnosis and treatment do not fit the expected natural course of "just a sore throat," a self-limited disease lasting less than five days. When the patient has a sore throat, we should pay special attention to the following red flags: rigors, shaking chills, high fever (greater than 102°F [39°C]), night sweats, and unilateral neck swelling. These red flags should indicate that the patient may have a more serious illness. When these patients appear bacteremic, we have an obligation to admit the patient, start intravenous antibiotics, and obtain imaging of the jugular vein or soft tissues of the neck (usually with computed tomography).

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Author disclosure: Nothing to disclose.

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