

Not Your Average Strep Throat, A Case Report

William H. Hall IV, MD & Marc Immerman, MD

James Bohan, MD – Emergency Medicine

History of Present Illness:

28 YO Caucasian Female with DM type I & h/o right ovarian tumor s/p resection in 2012 presents with 4 days of sore throat. Patient originally visited urgent care 4 days ago, given Keflex and sent home. In the interim, patient has worsening symptoms of sore throat and increasing tender cervical lymphadenopathy R > L. Endorses nausea without vomiting, and subjective fevers without measurement. ROS negative with exception to above.

Past Medical History:

- Type I DM
- Right ovarian tumor s/p resection 2012
- Migraines
- Anxiety

Social History:

- Denies tobacco, alcohol, or drug use.

Initial VS:

- BP 133/82, P 110, R 16, T 37.7, Pain 9/10, Sat 97% RA

Physical Exam:

- Non-toxic appearing. BL swollen tonsils R > L with erythema and exudates with necrotic lesions on right tonsil. Isolated right, tender cervical lymphadenopathy ~ 2 cm. Cardiopulmonary benign. Abdomen benign. Full and equal pulses throughout. No focal neuro deficits.

ED Course:

- 1 L NS, Ceftriaxone 1 g IV, Tylenol 1 g PO
- CT soft tissue neck for concern of PTA: No concerning signs of abscess noted in tonsillar region, however significant BL cervical and mandibular lymphadenopathy and BL tonsillar swelling
- Patient admitted to medicine for further workup and management of infection and Type 1 DM

Labs and Studies:

- CBC normal. CMP glucose 199, otherwise normal. HCG negative. Strep A PCR negative. Mono negative. Gonorrhea throat culture negative. Miscellaneous throat culture: Group F Streptococcus Anginosus (S. milleri group)

Introduction:

Acute pharyngitis is a relatively common condition found in the ED accounting for 12 million ambulatory case visits or about 1-2% of all ambulatory case visits (Schappert 2008), many of which occur in the ED with the increasing frequency of patients having no primary care physician to turn to. It is imperative to be able to recognize and treat according to best practice guidelines with regards to antibiotic therapy. The most common organisms involved are viral & Group A streptococcus. There are many uncommon organisms that could be involved that should be considered if either the patient is not responding to standard therapy, or the suspected organisms are not found via standard tests. One of these very rare organisms is Group F Streptococcus Anginosus (S. milleri group previously).

Group F Streptococcus Anginosus

This species of streptococcus is a subgroup of the viridans streptococci and are considered normal flora of the oral cavity, GI tract, and vagina. Unique properties of this species is they are very variable in the Lancefield antigens and hemolysis patterns and can differ from strain to strain (Al-Charrakh & Alaa 2011).

The pathogenicity factors of this species are not fully understood and are thought to be a combination of protective capsules, exotoxins, and/or hydrolytic enzymes. Infections range from abscess formation & oral infections to CNS infections and bacteremia. Of all the unique properties these species have, the most clinically relevant is their resistance patterns to antibiotics. Ceftriaxone & vancomycin tend to be the treatments of choice due to their all too common resistance to penicillin, cephalexin, amoxicillin-clavulanic acid, fluoroquinolones, sulfonamides, ampicillin, cefotaxime, cefepime, and tetracyclines (Al-Charrakh & Alaa 2011).

Conclusion:

When evaluating a patient with a presumed pharyngitis and response to therapy is underwhelming, consider reevaluation with culture to possibly identify alternative organisms involved so that targeted therapy can be achieved. Other notes to consider are that Strep A PCR is highly sensitive (~96%) & specific (~98%) to only Group A Strep and if considering other groups, a culture of the location of infection should be obtained for delineation of other groups of streptococci or other organisms involved. As a good rule of thumb, broad spectrum antibiotics such as ceftriaxone and vancomycin together supply good coverage for gram-positive, gram-negative, and MRSA related infections while a more targeted approach is sought.

References:

- Schappert SM, Rechsteiner EA. Ambulatory medical care utilization estimates for 2006. Natl Health Stat Rep. 2008;8:1-29
- Al-Charrakh, Alaa H et al. "Prevalence of β -hemolytic groups C and F streptococci in patients with acute pharyngitis." North American journal of medical sciences vol. 3,3 (2011): 129-36. doi: 10.4297/najms.2011.3129
- Camacho-Cruz J, Preciado H, Beltran N, Fierro L, Carrillo J: Lemierre's Syndrome Caused by Streptococcus anginosus Presenting as Postseptal Cellulitis in a Pediatric Patient. ORL 2019. doi 10.1159/000500560

For additional information please contact:
William H. Hall IV – Williamhall1114@gmail.com
Marc Immerman - marcandkaren02@yahoo.com