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Case Report

Unusual Cause of Recalcitrant Tonsillitis

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Abstract

The etiology of infectious tonsillitis is usually easily discernable with microbiological investigations such as microscopic examination of gram stain of the exudate and culture in specific media. Rapid antigen tests have made diagnosis a point-of-care and rapid procedure. However, rarely unusual organisms may be the etiological agents, in which case routine investigations fail to uncover the cause. The report discusses the case of a male patient with syphilitic tonsillitis, an unusual case of throat infection.

Keywords: Tonsillitis; Throat Infection; Unusual Organisms

Introduction

Tonsillitis is a common infection of the upper aerodigestive tract having numerous etiological factors, most commonly viral and bacterial agents. Ebstein-Barr Virus associated infectious mononucleosis is a common viral cause, with other causative viruses including cytomegalovirus, HIV and hepatitis A virus, and hence bacterial culture is often negative in cases of tonsillar infection. The common bacterial agents include *Streptococcus*, the beta hemolytic variety of significant importance due to the possible sequelae such as rheumatic fever, glomerulonephritis and pediatric auto-immune neuropsychiatric disease associated with streptococcal infection (PANDAS) [1]. Syphilis, the sexually transmitted disease caused by *Treponema pallidum* can cause a wide variety of clinical presentations, and hence is called the "great imitator". Syphilis presenting as tonsillitis is unusual and hence diagnosis is often delayed [2].

Case Report

A 21-year-old male patient presented to the clinic with history of recurrent episodes of sore throat over the last 6 months, which failed to respond to 3 separate courses of antibiotics which he claimed to have been compliant with. He also reported generalized malaise, recurrent headaches, muscle pain and occasionally feeling feverish. Documentation produced by him included throat swab that did not reveal any pathogenic agent, negative result on rapid antigen test and a normal hemogram. Examination revealed enlarged tonsils that appeared ulcerated and covered by purulent exudate which also coated the posterior pharyngeal wall and significant cervical lymphadenopathy. During examination of the neck, an erythematous maculopapular rash was discovered over the chest which the patient admitted was also present over the trunk and genital region. On further questioning, the patient admitted to multiple sexual partners, as well as performing unprotected oral sex. A suspicion of sexually-related etiology prompted testing for HIV infection, gonorrhea and syphilis - all known to have potential to cause pharyngotonsillar infection, and a swab from the ulcerated areas was taken for microbiological testing. He was found to have positive treponemal antibodies, a positive rapid plasma reagin test and a positive *Treponema pallidum* hemagglutination assay, performed as components of a "syphilis panel" by the testing laboratory. Tests for other infections including HIV were negative. A diagnosis of secondary syphilis was made, and he was treated with long-acting benzathine penicillin (2.4 million units, intramuscularly) and also counselled regarding partner testing,

safe sexual practices and offered pre-exposure prophylaxis (PreP) for HIV infection owing to his behavioral risk factors, however he declined the same. On follow-up after 2 weeks, tonsillar infection appeared to have completely subsided and the rash over the trunk and lymphadenopathy had reduced considerably.

Discussion

Due to its versatile presentation, Sir William Osler had said "He who knowns syphilis, knows medicine". Syphilis is known as the "Great Imitator" due to its ability to infect virtually any organ, or multiple organs, and in doing so mimics the clinical presentation of various other diseases, thus making the diagnosis difficult [3].

Syphilis which was a common and fatal disease prior to the antibiotic era, has made a dramatic return to prominence in recent years, attributed to high-risk behaviors and unprotected sexual practices, particularly amongst men who have sex with men (MSM). In this cohort, incidence has increased by almost 50% in countries such as England [4,5].

Mucus membrane lesions are common in syphilis and may be found over the mucosa of the oral cavity, pharynx and nasal mucosa. In primary syphilis, a solitary painless ulcer called "chancer" is seen, usually associated with lymphadenopathy [6]. The erosions are called "mucus patches" and these coalse to form "snail track ulcers" [7].

Syphilitic tonsillitis though rare, has been described in both the secondary stage as well as in tertiary syphilis. It is usually associated with other features of the disease like lymphadenopathy and dermatological manifestations rather than presenting as isolated tonsillar infection. Other sexually transmitted infections including *Chlamydia, Gonorrhea*, oropharyngeal herpes and HIV can cause tonsillar infection, either independently or along with syphilis and hence identification of a sexually transmitted agent should promptly be followed by investigating for possible coinfections [2].

Diagnosis is based on serology, treponemal specific tests (such as *Treponema pallidum* hemagglutination assay and anti-treponemal antibody detection) and non-treponemal tests (for example, Rapid plasma reagin) are available. Molecular methods such as PCR are limited in availability [8].

Irrespective of location, treatment remains the same and is based on stage of the disease. Benzathine penicillin given as a single intramuscular injection of 2.4 units is the standard choice and is substituted with doxycycline, tetracycline, azithromycin or ceftriaxone when penicillin is contraindicated [9].

Conclusion

Tonsillitis though a common condition may prove difficult to diagnose when unusual organisms are the etiological agents. Accurate diagnosis is important especially when associated systemic features such as rash are present due to the possibility of beta-hemolytic streptococcal infections which can have catastrophic sequelae. Syphilis being a master of mimicry should not be overlooked as a possible cause of tonsillitis, especially when other organisms are not isolated and prompted management is crucial to prevent progression of the disease and its complications.

Ethical Considerations

Patients consent obtained.

Financial Support

None.

Conflict of Interest

None.

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