Case report

A positive rapid strep test in a young adult with acute pharyngitis: Be careful what you wish for!

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**ABSTRACT**

In young adults with acute pharyngitis, the main differential diagnosis is between GAS pharyngitis, EBV infectious mononucleosis, or other causes of viral pharyngitis. A positive RST does not differentiate GAS colonization from infection as is well illustrated by this case. Laboratory test results must be interpreted in the appropriate clinical context to be diagnostically meaningful. The RST only detects Group A streptococci, but does not, of itself, implicate a causative role in the patient’s pharyngitis. Without clinical correlation based on the clinical findings of GAS pharyngitis a positive RST may mislead the unwary physician to unnecessarily treat colonization rather than infection.

I report an interesting case of a young adult who presented to the ED with no fever and acute pharyngitis. His RST was positive, and he was treated with procaine penicillin and released. Three days later he was re-admitted to the hospital with severe Herpes gingivostomatitis.

**Introduction**

Clinical correlation of findings remains the basis of clinical diagnosis. Clinical diagnosis is often verified by laboratory tests [1-5]. In adults presenting with acute pharyngitis, the use of rapid strep tests (RST) for Group A streptococci (GAS) is commonly used to confirm the diagnosis of GAS pharyngitis in young adults (<30 years). GAS colonization is common in those > 30 years of age, but bona fide GAS pharyngitis is rare in adults > 30 [3-5]. Specimen sampling problems aside, in the proper clinical setting, a negative RST effectively rules out GAS pharyngitis. Without the associated clinical findings of GAS pharyngitis, a positive RST is not diagnostic of pharyngitis. Detection of GAS verifies the presence, but not the role, of GAS in pharyngitis [6-8].

Detection of a microorganism, regardless of the sensitivity/specificity of the test, does not implicate the organism’s causal role in the infection at the site tested. Young adults with acute pharyngitis still need a clinical evaluation to differentiate GAS pharyngitis from other causes of acute pharyngitis [9,10]. The real life clinical problem is that a positive RST does not differentiate colonization from infection [2-4]. Without clinical correlation, organism detection alone is often misleading, i.e., may represent colonization and not infection. This is not due to false positive RSTs, but rather that a positive RST only detects GAS, but does not differentiate colonization from infection that is the clinical problem [2,6,7].

**Case report**

A 20 year old college student in good health presented to the Emergency Department (ED) complaining of three days of sore throat and mild malaise. He was afebrile and his physical examination was unremarkable for GAS pharyngitis, i.e., he had no fever, no palatal petechiae, no uvular edema, no tonsillar exudates, and no bilateral anterior cervical adenopathy. The WBC count was 8.4 k/mm³ with relative lymphopenia (6% lymphocytes), with a normal platelet count. His ESR was normal. Serum transaminases were normal. He was treated with IM procaine penicillin and released. Three days later he returned to the hospital with severe Herpes gingivostomatitis (a clinical
syndromic diagnosis). Herpes gingivostomatitis is characterized by no fever, bleeding gums, with multiple anterior oral ulcers with multiple hemorrhagic necrosis and no cervical adenopathy.

Discussion

Although there were no clinical findings to suggest GAS pharyngitis, a rapid strep test (RST) was performed and was positive. The RST detects GAS, but does not differentiate GAS colonization from infection. Clinically, that the RST may have represented GAS colonization rather than infection was not given consideration. As with other viral etiologies of pharyngitis, e.g., Epstein-Barr virus (EBV) infectious mononucleosis (IM), GAS colonization is not uncommon. In EBV IM Up to 30% of patients are colonized by GAS. This vignette illustrates the perils of undue reliance on the RST which may be misleading (represent co-

Conflict of interest

No conflict of interest in publication of this manuscript.

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