Summary and Recommendation

Summary

Pharyngitis, the broader category into which streptococcal pharyngitis falls. The most important agents causing pharyngitis are viruses, and group A streptococcus (GAβHS).

If there are three or more episodes of GAS pharyngitis within a household, within a three month period, diagnosed using throat swabs, management of the household is required. The entire household should have throat swabs and be treated with antibiotics if GAS positive, whether they have a sore throat or not.

In rural Egypt the highest streptococcal carrier rate was observed in late autumn and early winter and the lowest rate in the summer monthes.In an Indian community the highest point prevalence was seen in winter,and in Europe the highest incidence was found in autumn.

Mortality from RF in Egypt was the highest reported (1.1/ 1000.000) among developing countries in 1980 and dropped to 0.7/ 100.000 in 1987 (Who, 1993). The reported RHD mortality rates were as well high in Egypt. In 1971, the highest reported RHD mortality rate in the world 27.5/ 100.000 in 1980 and dropped to 8.1/ 100.000 in 1987 so prevention of RF by early detection and early treatment of streptococcal pharyngitis is one of aims of our study.

RF occurs in 0.3 % to 3 % of patients who have pharyngitis due to group A streptococcal (GAS) infection as an autoimmune response to the infecting agent

ARF is an autoimmune, multi-system response secondary to molecular mimicry following Lancefield group A streptococcus (GAS)

pharyngitis; it is now most commonly found in the pediatric populations of developing nations.

Rheumatic heart disease accounts for 25-50 % of all cardiac admissions internationally. Regions of major public health concern include the Middle East, the Indian subcontinent, and some areas of Africa and South America. As many as 20 million new cases occur each year. The introduction of antibiotics has been associated with a rapid worldwide decline in the incidence of ARF. Now, the incidence is 0.23-1.88 patients per 100,000 populations. From 1862-1962, the incidence declined from 250 patients to 100 patients per 100,000 population, primarily in teenagers

The OSOM Strep A (RADT) Test is intended for the qualitative detection of group A streptococcal antigen from throat swabs or confirmation of presumptive group A streptococcal colonies recovered from culture

The OSOM Strep A Test uses color immuno-chromatographic dipstick technology with rabbit antibodies coated on the nitrocellulose membrane. In the test procedure, a throat swab is subjected to a chemical extraction of a carbohydrate antigen unique to group A streptococcus. The Test Stick is then placed in the extraction mixture and the mixture migrates along the membrane. If group A streptococcus is present in the sample, it will form a complex with the anti-group A streptococcus antibody conjugated color particles. The complex will then be bound by the anti-group A streptococcus capture antibody and a visible blue Test Line will appear to indicate a positive result.

In our study that conducted on 100 patients (59 males and 41 females) complained of throat pain and fever, only 34 patients (22 males and 12 females) were positive strep A pharyngitis by rapid test and

started antibiotics immediately, and by throat cultures 37 patients (23 males and 14 females) were positive strep A pharyngitis..

Also from study we noticed that the highest prevelance of strep A was in group B patients 6-12 years where number of positive patients was 39.6 ٪ while in group A 1-6 years it was 34.5٪ and in group C 12-18 years it was 33.3 ٪.

Also from study our rapid test (osom strep A test) has high sensitivity 89 %, specificity 98 ٪, accuracy 95٪, positive predictive value 97 ٪ and negative predictive value 94 ٪.

Recommendations:

1) The OSOM Strep A Test is a simple, quick and extremely reliable test. It should be incorporated in the initial assessment of children with fever and URTIs / pharyngo-tonsillitis. Its use will allow the practicing of a (no initial antibiotics) policy safely, with a marked reduction in antibiotic use in these children.

2) Because of the high specificity of OSOM Strep A Test, so positive test result does not require confirmation with blood culture.

3) Because of the high false negative results of our test kits (Osom strep A rapid test) 6 ٪ so all patients with negative rapid test should be confirmed by throat culture.

4) The availability of a RADT that does not require BAP culture confirmation could improve patient care.

Conclusion

1) The results of RADT in different clinical studies have been variable. These variations may be attributable to technical factors and/or nonspecific diagnostic criteria. A negative RADT result should be

verified by a standard throat culture, and antibiotic therapy can be delayed until after the results of the culture are known. When a RADT result is positive, antibiotic therapy should be started, which may prevent the complications of GABHS disease. RADT is beneficial in the emergency department when the clinical suspicion is GABHS, provided that standard throat culture is available for patients whose RADT results are negative.

2) As the diagnostic value of RADT is high, it can be used safely in populations where streptococcal pharyngitis and its complications such as acute rheumatic fever and acute glomerulonephritis are common.

3) The use of this osom strep A rapid test can help in:

a) Early detection of Group A β-Hemolytic (GAβH) streptococci within minutes and not waiting for culture results which take about 2 days.

b) Early start of treatment of positive cases of GAβH within minutes which leads to prevention of complications of streptococcal infection.

c) Prevention of development of multi-drug resistance, by prescribing antibiotic only for positive cases (GAβH) only and not for negative cases which is viral in origin.

d) Early treatment can allow patients to return to school or work sooner.