

INCIDENCE OF ACUTE STREPTOCOCCAL PHARYNGITIS

Muhammad Habib Khattak¹, Muhammad Asghar Khan¹, Shafiullah², Usman Khan Orakzi³

¹Department of Out Patients (ENT), Khyber Teaching Hospital, Peshawar - Pakistan

²Department of ENT, Peshawar Medical College, Peshawar - Pakistan

³Department of ENT, Northwest General Hospital, Peshawar - Pakistan

ABSTRACT

Objective: To determine the frequency of streptococcal infection in patients having acute pharyngitis.

Material and Methods: This study was conducted in ENT clinic of Khyber Teaching Hospital, Peshawar from January 2013 to June 2013. A simple kit of rapid antigen detection test was used to identify the streptococcal antigen by taking a swab from the throat of patients.

Results: A total of 40 patients were selected from ENT clinic Khyber Teaching Hospital, Peshawar, Pakistan, as per selection criteria ranging from 3 to 40 years old. In our study, 65% were male while 35% were female. Of all the patients 13 (32.5%) cases were positive for streptococcal antigen while 27 (67.5%) cases were negative for streptococcal antigen.

Conclusion: Rapid antigen detection test makes it easy to choose empirical antibiotic to the patients of acute pharyngitis without waiting for culture sensitivity.

Key Words: Streptococcal, pharyngitis, bacterial, antibiotic, resistance, sensitivity.

INTRODUCTION

Globally Pharyngitis is a common disease and is one of the common reasons for work off and loss of economy. The prevalence of pharyngitis was very high among the people of Yemen¹. Similarly a study was conducted in Turkey that has shown frequency of acute pharyngitis in up to 15-30% of children². Qureshi A. Khaliq, in his study carried out in Quetta (Pakistan), found out that streptococcus was the commonest pathogen isolated in bacterial pharyngitis 287/5083³. Hence, it is not surprising that intense research work is being underway to find out different means for rapid diagnosis and treatment and further prevent the disease and its life threatening complications.

Virus is considered as the most common causative agent responsible for pharyngitis, but bacterial pharyngitis is also not a rare entity and group A streptococcal pharyngitis is leading cause in the later type. Group A streptococcal pharyngitis has numerous serious complications e.g Rheumatic fever⁴, rheumatic

heart disease, nephrotic syndrome⁵, rheumatic chorea, joint disease and pleuritis etc.

Gold standard for diagnosis and identification of the etiological bacteria in pharyngitis is the culture of throat swab, but it is a time consuming process for which treatment cannot be delayed. Similarly empirical treatment of the pharyngitis will lead to the overtreatment as most of the pharyngitis is of the virus etiology. Rapid antigen detection test which is single step test may prove a useful alternative for a rapid diagnosis of bacterial pharyngitis, because culture of throat swab is not easily available especially in far-flung areas. Our study is aimed to find out the frequency of streptococcal pharyngitis as this will help us to choose the appropriate empirical antibiotics to avoid overtreatment and prevent deadly complications of this common disease.

MATERIAL AND METHODS

This study was conducted in Khyber Teaching Hospital, ENT clinic from January 2013 to June 2013. A simple kit of rapid antigen detection test was used to identify the streptococcal antigen by taking a swab from the throat of patients. Rapid antigen detection test consist of a strip with lines which change its color when the antigen reacts with antibodies laden lines in the strep.

Address for Correspondence:

Dr. Muhammad Habib Khattak

Department of Out Patients (ENT),

Khyber Teaching Hospital,

Peshawar - Pakistan

Cell: 0300-5938475

E-mail: muhammadhabib164@yahoo.com

All the patients presenting with fever greater than 100.4°F (38C), tender enlarged cervical lymph nodes, tonsillar exudates and swelling with age range from 3 years to 40 years of both the gender were included in study, while patients below 3 years and those using antibiotic within 48 hours were excluded from the study.

RESULTS

A total of 40 patients were selected from ENT clinic Khyber Teaching Hospital, Peshawar as per selection criteria from January 2013 to June 2013 ranging from 3 years to 40 years old. In our study, 65% were male while 35% were female. Of all the patients, 13 cases (32.5%) were positive for streptococcal antigen while 27 cases (67.5%) were negative for streptococcal antigen.

DISCUSSION

Rapid antigen test can be used as alternative to the culture of throat swab because its specificity is very high. This feature of the test prevent over prescription of the antibiotic that is those who are negative should not be prescribed with antibiotic. In another study it was about three quarter of the adult patients having pharyngitis, antibiotic are prescribed unnecessarily.⁶

Leunq AK and his colleagues have reported excellent specificity of the rapid antigen detection test compared with culture on blood agar plate but lower sensitivity. Thus it is necessary to confirm the negative rapid antigen detection test by blood agar plate or clinical algorithm. The application of rapid antigen detection test has significantly reduced morbidity, symptoms and inappropriate use of antibiotic as noted by them.⁷ A study conducted by Kucuk O et al in Ankara also confirmed lower sensitivity of rapid antigen test compared to the throat culture. Because of the carrier state of the patients, low sensitivity of the test was observed streptococcus A was the cause of pharyngitis.⁸

Neuner et al carried out a study and observed that Clinical tests like rapid antigen test were found to be cost-effective because empirical treatment without diagnostic tests was more expensive.⁹ Despite rapid diagnosis and cost-effectiveness, the antigen detection test has a disadvantage of no information regarding the resistance or sensitivity to antibiotic, thus it does not give any guidance to use certain antibiotic. Rapid antigen detection positive patients may be resistant to

commonly used antibiotics, eg erythrocin was found ineffective due to widespread resistance.^{10,11} In our study, 32.5% were positive for streptococcal antigen while 67.5% were negative. The results are comparable to national and international studies.^{12,13,14}

CONCLUSION

The rapid antigen detection test can save the time in choosing appropriate antibiotics for streptococcal pharyngitis.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Khattak MH: Conceived the idea, collected the data.

Khan MA: Manuscript writing.

Shafiullah: References collection.

Orakzai UK: Data analysis and statistics.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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