

ABSTRACT

Background: *Streptococcus pyogenes* is one of the pathogens which is common and can cause a wide variety of diseases with varied differences in the severity. The frequent manifestation is pharyngitis. A ubiquitous organism like *S.pyogenes* is the leading cause of acute pharyngitis caused by bacteria resulting in about 15-30% of cases in children and 5-10% in adults. *S.pyogenes* is capable of a wide range of infections which include suppurative and non-suppurative infections. The suppurative infections being streptococcal sore throat, pharyngitis, impetigo, scarlet fever, erysipelas, postpartum (puerperal) fever, necrotizing fasciitis, septicemia and toxic shock syndrome. The non-suppurative complications being acute rheumatic fever, gas gangrene and acute post-streptococcal glomerulonephritis. Rheumatic fever is not common in most developed countries but it is being the leading cause of acquired heart disease among children in many low socio economic areas such as sub-Saharan Africa, India.

Objectives: The present study was carried out to estimate the incidence of Group A Streptococcal infections in patients and study the prevalence of asymptomatic carriage among school children

Methods : Clinical isolates of Group A Streptococci were collected from various sample in our hospital and throat swabs were collected from asymptomatic school children. The grouping was confirmed by various biochemical tests and comparison between commercial streptococcus kit method with conventional method was done for the identification of Group A Streptococci. emm gene identification done by PCR method.

Results: Among 495 throat swabs collected from school children 7 children (1.4%) are carriers of Group A Streptococci. 5 children (1.0%) are carriers of Group G Streptococci. Among 143 samples collected from various samples in our hospital 67 (46%) were found to be Group A Streptococci and 76 (53%) were found to be other serogroups of beta hemolytic streptococci. Comparison of manual nitrous acid extraction method with commercial kit (PLASMATEC) for the sero grouping identification of *Streptococcus pyogenes* showed the manual conventional method had a sensitivity of 92% and specificity of 100% with positive predictive value of 100% and negative predictive value of 98.92%.

Conclusion: The incidence of Group A Streptococci from various clinical samples were found to be 0.75%. The prevalence of asymptomatic carriers of Group A Streptococci was found to be 1.4% and Group G Streptococci was found to be 1.0%. The isolates of *S.pyogenes* were 100% Sensitive to Cefotaxime and Vancomycin, 88.32% Sensitive to Penicillin and Levofloxacin, 79.23% Sensitive to Clindamycin, 74.03% Sensitive to Co-trimoxazole and 64.94% sensitive to Erythromycin. The prevalence of emm gene was found to be 26%. The commercial streptococcal grouping kit method was found to be 100% sensitive and specific when compared to conventional method.

Key words: *Streptococcus pyogenes*, emm.