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### Original Report

#### emm Gene Polymorphism among Streptococcus pyogenes Isolated from Throat Culture

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#### Abstract:

DNA sequencing is the most conclusive method for emm (M protein gene) typing of Streptococcus pyogenes. This method is not a feasible approach in developing countries where streptococcal infection is widespread among adults and children. Alternatively the PCR-RFLP has the potential for rapid screening of different types of S. pyogenes. To document the emm type distribution of S. pyogenes in a group of patients suffering from pharyngitis, the restriction fragment length polymorphism (RFLP) profile of 50 isolates were analyzed. By using Hae III+ HincII (double digestion) and Dde I restriction enzymes and based on RFLP, the profile patterns of the isolates were compared. The analysis of data identified 15 distinct RFLP patterns for Hae III+ Hinc II and 13 patterns for Dde I. They differ from each other by at least one band. Although the number of isolates was not sufficient to make any epidemiological conclusion, but the finding demonstrated that the S. pyogenes population among patients was heterogeneous. Regarding the PCR method, we managed to improve the results by modification of CDC protocol in three different ways. This study was conducted in normal circumstances when pharyngitis was at the peak seasonal incident. However emm amplicon restriction digest analysis is a valuable tool for rapid analysis of S. pyogenes infection in more important situation like outbreaks and in selected type of study like consideration of nosocomial infection.

#### Keywords:

[Streptococcus pyogenes](#) , [PCR- RFLP](#) , [emm gene](#) , [Pharyngitis](#)

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