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Pneumococcal nasopharyngeal colonization during the first days of antibiotic treatment in pediatric patients

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Abstract:

This prospective study was conducted to observe changes in nasopharyngeal (NP) pneumococcal carriage within 4 to 5 days after initiation of commonly used antibiotics for 150 patients who were admitted at infectious disease unit of children's medical center in Tehran to determine whether a significant increase in the carriage rate of drug (Penicillin) resistant S.pneumonia on NP can be observed within this short interval. Nasopharyngeal culture for S.pneumonia was obtained before (Day 1) and after (Day 4 to 5) initiation of antibiotic treatment. Antibiogram was performed in all isolates and the MIC of penicillin in 20 resistant S.pneumonia. By E-test method among the initial 46 (30%) pneumococcal isolates 28 (60%) were sensitive and 8 (17%) were resistant to penicillin. After 4 to 5 days of antibiotic treatment with various drugs, 20 (13%) pneumococcal isolates in the culture were obtained, of whom 12 patients (60%) were resistant to penicillin and 8 patients (40%) were sensitive. In 4 of 150 patients (2.6%) a new S.pneumonia isolate was recovered 4 to 5 days after initiation of treatment. All of those isolates were penicillin-resistance. Conclusion: A rapid detection of penicillin-nonsusceptible NP pneumococcal isolates during antibiotic treatment is common. This may contribute to the spread of resistant pneumococci.

Keywords:

Streptococcus pneumonia ، Nasopharyngeal carriage ، Penicillin

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