

عنوان مقاله:

Antibiotic Susceptibility and Prevalence of Adhesion Genes in Streptococcus pneumoniae Isolates Detected in Carrier Children in Tehran

محل انتشار:

دومین کنفرانس بین المللی پژوهش ها و دستاوردهای نو در علوم، مهندسی و فناوری های نوین (سال: 1401)

تعداد صفحات اصل مقاله: 9

نویسندگان:

Sara Abdollahi - Department of Microbiology, Pasteur Institute of Iran, Tehran, Iran

Seyed Mohammad Ghorbani Dazmiri - Faculty of Biological Sciences, Sari Branch, Islamic Azad University, Sari, Iran

Masoumeh MirzaeiChegeni - Department of Biology, Science and Research branch, Islamic Azad University, Tehran, Iran

Shila Fallahpour - Department of Biology, Biological Science Faculty, Islamic Azad University of Falavarjan, Isfahan, Iran

Shaghayegh Norouzidehmajnooni - Department of Biology, Islamic Azad University of Yazd, Yazd, Iran

Zahra Abad - Department of biological sciences, cellular and molecular biology research center, North Tehran branch, Islamic Azad university, Tehran, Iran

خلاصه مقاله:

Background: Pharyngeal carriers are the source and transitional vectors of invasive diseases. Attachment is the first step in pathogenicity. Strains of Streptococcus as normal flora can cause diseases in certain circumstances. Adhesion proteins of these bacteria play a fundamental role in the attachment and colonization. Objectives: In the present study, 5 genes encoding surface proteins namely phtD, pspC, phtE, lytA, and rrgA were evaluated in Streptococcus pneumoniae isolates collected from 4 main care centers and the children's Medical center in Tehran. Methods: Three hundred and eight nasopharyngeal swab specimens were collected from children under 6 years. The identification of S. pneumoniae isolates was performed using biochemical tests confirmed by PCR for the presence of cpsA gene. The existence of phtD, phtE, pspC, lytA, and rrgA genes was studied by PCR amplification assays. Results: From 308 nasopharyngeal swabs, 102 isolates of S. pneumoniae were confirmed by identification tests. Among these isolates, 87 (85.2%), 54 (52.9%), 51 (50%), 43 (42.1%), and 31 (30.3%) were positive for lytA, rrgA, phtE, pspC, and phtD genes, respectively. Conclusions: Our study showed that cpsA of S. pneumoniae is one of the major characteristic genetic markers for diagnostic purposes. Among five adhesion genes, lytA was the most frequent one and the strains with a combination of rrgA and lytA genes were predominant. These findings could be very useful in designing further studies on vaccines against S. pneumoniae in our country.

کلمات کلیدی:

Nasopharynx, PCR, Streptococcus pneumoniae, Adhesion Genes

