

عنوان مقاله:

Antimicrobial resistance, biofilm formation and alginate production in *Pseudomonas aeruginosa* isolates obtained from respiratory tract specimens

محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Navid Saidi - *Molecular Microbiology Research Center (MMRC), Shahed University, Tehran, Iran*

Saied Besharati - *Department of Microbiology, Faculty of Medicine, Shahed University, Tehran, Iran*

Horieh Saderi - *Molecular Microbiology Research Center (MMRC), Shahed University, Tehran, Iran*

Parviz Owlia - *Molecular Microbiology Research Center (MMRC), Shahed University, Tehran, Iran*

خلاصه مقاله:

Introduction and Objectives: *P. aeruginosa* is one of the most common opportunistic bacteria in nosocomial infections, which has a significant resistance to antimicrobial agents. *P. aeruginosa* is a biofilm-forming bacterium which can result in serious health problems. The purpose of this study was to investigate the biofilm formation, alginate production and antimicrobial susceptibility patterns among *P. aeruginosa* isolated from respiratory tract specimens. **Materials and Methods:** In this study, 36 isolates of *P. aeruginosa* were recovered from respiratory tract specimens. *P. aeruginosa* isolates were identified and confirmed by phenotypic methods and PCR test. Antimicrobial susceptibility of the isolates has been specified by the disk diffusion method. Biofilm formation and alginate production of these isolates were measured by microtiter plate and carbazole assay, respectively. **Results:** Antimicrobial susceptibility test showed that 12 (33.3%) isolates were sensitive to all antibiotics; on the other hand, 4 (11.1%) isolates were resistant to all antibiotics. 11 (30.5%) of *P. aeruginosa* isolates were multidrug-resistant (MDR). The most effective antibiotic was piperacillin-tazobactam as 83.3% of isolates were sensitive, and the most resistant was observed for ofloxacin (36%). All isolates were biofilm and alginate producers, in which, 36.1% were strongly biofilm producers, and the rates of moderate and weak biofilm producers were 52.8% and 11.1%, respectively. The production of alginate in 93% of strong-biofilm forming isolates was more than 250 µg/ml, while 75% of low-biofilm forming isolates produced less than 250 µg/ml alginates. **Conclusion:** In this study, a high prevalence of biofilm and alginate production was observed in *P. aeruginosa* isolates from respiratory tract specimens. Also, the results of this study indicated a relationship between the rate of alginate production and level of biofilm formation in *P. aeruginosa* isolates.

کلمات کلیدی:

Alginate, Biofilm, *Pseudomonas aeruginosa*

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/987217>



