

عنوان مقاله:

Plasmid Pattern of Biofilm Producing *Proteus mirabilis* and *Proteus vulgaris* among Clinical Isolates in Kerman University Hospitals during ۲۰۱۱-۲۰۱۲

محل انتشار:

مجله دانشگاه علوم پزشکی کرمان، دوره 20، شماره 6 (سال: 1392)

تعداد صفحات اصل مقاله: 12

نویسندگان:

H SHikh Bardsiri - Postgraduate Student of Microbiology, Afzalipour School of Medicine, Kerman University of Medical Sciences, Kerman, Iran

M.R SHEkibaei - Associate Professor of Microbiology, Afzalipour School of Medicine, Kerman University of Medical Sciences, Kerman, Iran

S Amini kafiabadi - Associate Professor of Pathology, Tehran Blood Transfusion Organization, Tehran, Iran

خلاصه مقاله:

Background & Aims: Emergence of biofilm producing *Proteus* strains created a serious problem in the treatment of catheter-associated urinary tract infections. The aim of this research was to study biofilm production and plasmid pattern of *proteus* strains associated with Urinary tract infection. **Methods:** A total of ۸۸ strains of *Proteus* were isolated from samples collected in hospitals of Kerman/ Iran during ۲۰۱۱-۲۰۱۲. The isolates were identified by routine microbiological tests and antibiotic sensitivity tests were carried out by disk diffusion and minimum inhibitory concentration (MIC) by E-test methods. Biofilm production was studied by microtiter plate method and confirmed by Scanning electron microscope. Plasmids from biofilm producing isolates were detected by alkaline lysis technique. **Results:** From ۸۸ patients infected by *proteus*, ۵۸% were female and ۴۲% were male. The most and the least frequent age ranges were respectively ۲۰-۲۹ years old (۷۷.۳۹ %) and ۶۰-۶۹ years old. From all isolates, ۴۰.۶۹ % (n=۵۹) showed the highest MIC range (۱۶-۳۲۰.۰۵ $\mu\text{g}/\text{mL}$) to ceftriaxone whereas, ۵۹% [n=۴۱] exhibited the least MIC range to chloramphenicol (۱-۴۰.۰۸ $\mu\text{g}/\text{mL}$). Biofilm production was positive for ۱۷% (n=۱۵) of the isolates and ۶ (n=۶) did not show any biofilm (P = ۰.۰۵). Plasmid isolation from biofilm producing isolates revealed that stains number ۸۷, ۲۴ and ۱۹ that produced strong biofilm all carried similar high molecular weight (M. Wt) plasmid. While strain ۲۹ that showed strong biofilm did not have any plasmid. **Conclusion:** It can be concluded that the majority of isolates of *Proteus* were resistant to routine antibiotics and limited number of them could produce biofilm. Majority of the biofilm producing isolates contained a similar high M. Wt. plasmid

کلمات کلیدی:

Proteus, Antibiotic Resistance, Microbial sensitivity test, Biofilm, Plasmids

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