

عنوان مقاله:

MOLECULAR STUDY OF PMRA, PMRB AND MCR-1 GENES IN PSEUDOMONAS AERUGINOSA ISOLATES AMONG BURN PATIENTS IN SHAHID MOTAHARI HOSPITAL, TEHRAN, IRAN

محل انتشار:

نوزدهمین کنگره بین المللی میکروب شناسی ایران (سال: 1397)

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خلاصه مقاله:

Background and Aim: P. aeruginosa is a major cause of hospital acquired infection, especially in patients admitted in burn care unit. Colistin is the last chance in multi drug resistant (MDR) isolates. In this experiment, molecular study of PmrAB (as a two component regulatory system), presumptive mutation and frequency of mcr-1 which are related to Colistin resistance were detected. Methods: 80 P. aeruginosa isolates from burn wounds, in Shahid Motahari Hospital during Feb-Jun 2017 were collected. According to CLSI guideline 2017, antibiotic susceptibility test was performed by using disk diffusion method. Detection of pmrA, pmrB and mcr-1 genes was administrated by PCR. Also, sequencing was applied to finding the mutations in pmrA and pmrB genes. Results: Among 80 isolates of P. aeruginosa the highest resistance were against: Gentamycin, Piperacillin and Ceftazidime 95.1%, Imipenem 93.5%, Ciprofloxacin, Aztreonam, Piperacillin-Tazobactam 88.7%, Cefepime 85.5% and 83.8% were resistant to Amikacin. Also, all of the isolates were susceptible to Colistin. PCR results showed that 100% of the isolates had pmrA and pmrB. All were negative for mcr-1. One of the isolates show different mutations in pmrA gene (Cys 429 to Ala, Gly 457 to Cys, Gly 460 to Cys, Gly 475 to Cys, Gly 477 to Cys, Ala 518 to Gly). In pmrB the mutations were as follows: (Ala 1000 to Gly, Gly 1098 to Ala, Ala 1230 to Gly and Cys 1341 to Gly). Conclusion: To confirm the phenotypic results, doing molecular tests are recommended which may help physicians to prescribe the best and most appropriate antibiotic.

کلمات کلیدی:

Colistin, Pseudomonas aeruginosa, burn, antibiotic resistance

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