

عنوان مقاله:

Prevalence of CTX-M, OXA and KPC genes in Klebsiella pneumoniae isolates obtained from patients

محل انتشار:

مجله سرطان شناسی و علوم پزشکی، دوره 1، شماره 2 (سال: 1400)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Introduction: Klebsiella pneumoniae is known as one of the most important factors in the development of opportunistic infections. The main problem in the treatment of infections caused by these organisms is the emergence of strains with multiple resistance, which often leads to prolonged hospital stays, increased mortality and mobility, increased treatment costs compared to antibiotic sensitive microbes, and ultimately treatment failure. Therefore, the aim of this study was to investigate the prevalence of CTX M, OXA and KPC genes in Klebsiella pneumoniae isolates obtained from patients. **Materials and Methods:** In this study, 63 isolates of Klebsiella pneumoniae were obtained from different clinical specimens. After final diagnosis of the strains using standard biochemical and microbiological methods, cellular DNA was obtained using Cinaclon's DNA extraction kit. Finally, multiplex PCR test was performed to evaluate the presence of OXA 48, CTX M and KPC genes in Eppendorf device using a pair of specific primers. **Results:** Out of 63 samples under study, 29 samples (46%) from urine, 15 samples (23.8%) from sputum, 9 samples (14.3%) from fecal samples, 5 samples (7.9%) from wound culture and 4 samples (6.3%) were obtained from intravascular catheter of blood culture and 1 (1.6%) sample was obtained from cerebrospinal fluid. The results of PCR test for the studied genes showed that 49 (77.8%), 49 (77.8%) and 46 (73%) strains carried OXA, KPC and CTX M genes, respectively. **Conclusion:** The results of this study indicate that the frequency of resistance genes in Klebsiella pneumoniae strain is high and these strains can transfer resistance genes with high potential to other strains. Therefore, detection of Klebsiella pneumoniae strains containing beta lactamase resistance enzymes is important for better treatment and prevention of the spread of these genes to other bacteria using accurate phenotypic and genotypic methods.

کلمات کلیدی:

Klebsiella pneumoniae, Antibiotic resistance, PCR

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