عنوان مقاله:

Broad-Spectrum Beta-Lactamases and Drug-Resistance Phenotypes of Enterobacteriaceae Isolated from Clinical Specimens in Gonbad-e Kavus, Golestan Province, Iran

محل انتشار:

مجله میکروبیولوژی پزشکی و بیماریهای عفونی, دوره 10, شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 5

نویسندگان:

.Mohammad Hossein Akbari - *Department of Microbiology, Gorgan Branch, Islamic Azad University, Gorgan, Iran*

.Ania Ahani Azari - *Department of Microbiology, Gorgan Branch, Islamic Azad University, Gorgan, Iran*

.Leila Fozouni - *Department of Microbiology, Gorgan Branch, Islamic Azad University, Gorgan, Iran*

خلاصه مقاله:

Introduction: This study aimed to determine the frequency of extended-spectrum beta-lactamases (ESBL) and different drug resistance phenotypes in Enterobacteriaceae isolated from clinical specimens in Gonbad-e Kavus, Golestan Province. Methods: ۲۲۰ clinical samples of urine, blood, pus, sputum, CSF, body fluids, and ear and eye discharge were collected during six months from April to September ۲۰۲۱ at a referral hospital. The samples were cultured on blood and MacConkey agar and incubated overnight at ۳۷ °C. Standard biochemical tests and the API۲۰E enteric identification system were used to identify bacteria. The Kirby-Bauer disk diffusion method determined the antibiotic resistance pattern, and the phenotypic confirmatory test was used for detecting ESBL producers. Results: ۱۰۸ Enterobacteriaceae isolates were identified from different clinical specimens out of the samples. The isolates were Escherichia coli (۳۶.۱%), Klebsiella pneumonia (۲۵%), Enterobacter cloacae (۱۸.۵%), Citrobacter freundii (۱۱.۱%) and Proteus mirabilis (۹.۲%). The highest resistance and susceptibility among the isolates belonged to sulfamethoxazole-trimethoprim (۶۸.۵%) and meropenem (۱۱.۱%), respectively. The highest prevalence of multidrug-resistant (MDR) and ESBL were observed in E. coli and Proteus mirabilis isolates. Conclusions: In this study, the high frequency of MDR phenotypes in the isolates may suggest an increasing trend of antibiotic resistance in Enterobacteriaceae. This could greatly impact the management and treatment of infections caused by these drug-resistant bacteria. Therefore, infection-control measures and continuous monitoring is recommended for controlling the spread of ESBL-producing .strains in different geographical areas

کلمات کلیدی:

Beta-lactamases, Drug-resistant, Enterobacteriaceae, Prevalence