

عنوان مقاله:

Prevalence of the Integrations and ESBL Genes in Multidrug-Resistant Strains of Escherichia coli Isolated from Urinary Tract Infections, Ardabil, Iran

محل انتشار:

فصلنامه میکروب شناسی پزشکی ایران، دوره 16، شماره 1 (سال: 1400)

تعداد صفحات اصل مقاله: 10

نویسندگان:

Soheyla Barzegar - *Department of Microbiology, School of Medicine, Ardabil University of Medical Sciences, Ardabil Iran*

Mohsen Arzanlou - *Department of Microbiology, School of Medicine, Ardabil University of Medical Sciences, Ardabil Iran*

Amir Teimourpour - *Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran*

Majid Esmailizad - *Central Laboratory, Razi Vaccine and Serum Research Institute, Karaj, Iran*

Mehdi Yousefipour - *Department of Infectious and Tropical Diseases, Tehran University of Medical Sciences, Tehran, Iran*

Jafar MohammadShahi - *Departments of Infectious Diseases, School of Medicine, Ardabil University of Medical Sciences, Ardabil, Iran*

Roghayeh Teimourpour - *Department of Microbiology, School of Medicine, Ardabil University of Medical Sciences, Ardabil Iran*

خلاصه مقاله:

Background and Objective: Integrations play an essential role in disseminating drug resistance genes among bacteria. The aim of this study was to determine the prevalence of integrations, and Extended-Spectrum β -Lactamase (ESBL) genes in Escherichia coli (E. coli) isolates collected from patients with urinary tract infection (UTI) referred to teaching hospitals in Ardabil, Iran. **Materials and Methods:** In this descriptive, cross-sectional study (2017-2018), 163 isolates of E.coli were collected from patients with UTI. The drug susceptibility pattern of these isolates to 12 common antibiotics was investigated using the disk diffusion method based on CLSI guidelines. The prevalence of class 1, 2, 3 integrations and ESBL genes was verified by the PCR method. Finally, the genetic variation of isolates was analyzed using the ERIC-PCR method. **Results:** Of 163 isolates, 138 (84.7%) isolates were multidrug-resistance (MDR) strains. The lowest and highest antibiotic resistance was reported to nitrofurantoin and ampicillin, with a resistance rate of 1.2% and 89.6%, respectively. The incidence of class 1 and 2 integrations was obtained in 39.9% and 14.1% of the isolates, respectively. Class 3 integron was not found in any of the isolates. Based on the ERIC-PCR fingerprinting method, 4 ERIC types were detected. **Conclusion:** Our study showed that E. coli isolates taken from patients mainly were MDR strain and resistant to many of the common antibiotics used to treat urinary tract infections. Using the correct dose of

.medication and multidrug therapy would be effective in reducing the incidence of antibiotic resistance

کلمات کلیدی:

Escherichia coli, Integron, Multi-drug resistance, UTI, اشريشيا کلي, عفونت ادراری,

مقاومت چند دارویی, اینتگرون

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1401258>

