

## عنوان مقاله:

Phenotypic Detection of Beta-lactamases among *Proteus mirabilis*, *Enterobacter cloacae*, and *Citrobacter freundii* Isolates from Urinary Samples in Gorgan, Northeast Iran

## محل انتشار:

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## خلاصه مقاله:

**Introduction:** The data on members of the genera *Proteus*, *Pseudomonas*, *Enterobacter*, *Citrobacter*, and *Staphylococcus* as the etiologic agents of urinary tract infections (UTIs) is not much. This study investigated the frequency of various beta-lactamases in urine isolates of *Proteus mirabilis*, *Enterobacter cloacae*, and *Citrobacter freundii* in Gorgan, Golestan province. **Methods:** A total of ۶۳۲ urine samples were collected from hospitalized patients in a teaching hospital. The samples were cultured on blood agar and Eosin Methylene blue agar and incubated overnight at ۳۷°C. The cultures with a  $\geq 1.5$  CFU/mL bacterial count were defined as positive for UTI. Bacteria identification was performed using standard biochemical methods and the API۲۰E enteric identification system. The antibiotic resistance pattern was determined by the Kirby-Bauer disk diffusion method, and a phenotypic confirmatory test was used for detecting ESBL, MBL, and AmpC beta-lactamases producers. **Results:** Out of ۶۳۲ samples, ۳۱۷ (۵۰.۱%) were positive for UTIs, and ۲۷ (۸.۵%), ۲۱ (۶.۶%), and ۱۲ (۳.۷%) were positive for *Enterobacter cloacae*, *Citrobacter freundii*, and *Proteus mirabilis* isolates, respectively. All the isolates were sensitive to piperacillin-tazobactam and colistin. The prevalence of ESBL and AmpC beta-lactamases in *P. mirabilis* isolates was higher than the other isolates, but No MBL producers were detected. **Conclusions:** In this study, the high frequency of ESBL and AmpC beta-lactamases in *P. mirabilis* isolates may suggest an increasing trend in resistance to cephalosporins and monobactams, which could have a significant impact on the management and treatment of UTI caused by this organism. Therefore, continuous monitoring is required to control the spread of  $\beta$ -lactamase-producing isolates in different geographical areas.

## کلمات کلیدی:

Beta-lactamases, *Proteus mirabilis*, *Enterobacter cloacae*, *Citrobacter freundii*, Prevalence

## لینک ثابت مقاله در پایگاه سیویلیکا:

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