



ESBL Producing *Klebsiella pneumoniae* Isolates Recovered from Clinical Cases in Tehran, Iran

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Dear Editor-in-Chief

Klebsiella species are considered as the most important bacterial organisms causing more than 10% of in-hospital nosocomial infections. *K. pneumoniae* is known to be responsible for a majority rates of community-acquired urinary tract infections (1,2).

Extended spectrum beta-lactamase producing *K. pneumoniae* is most common infectious pathogen in hospitals and is mainly responsible for pneumonia, urinary tract infections, septicemia, and wound infections (2-4).

This study was conducted to determine the prevalence of ESBL producing *K. pneumoniae* strains isolated from clinical samples in a major hospital in Tehran, Iran. Overall, 500 clinical samples were collected from Aug 2017 to Dec 2017. *K. pneumoniae* strains were isolated and identified using microbiological techniques.

The *K. pneumoniae* isolates were studied for their susceptibility and detection of ESBL producers by double disk synergy test (DDST). Twenty-three percent of *K. pneumoniae* strains were ESBL producers detected by DDST test.

In the present study, a moderate number of *K. pneumoniae* isolates were ESBL producers and therefore, continued monitoring of drug resistance especially ESBL producers is important in clinical settings for disease management.

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Conflict of interest

The authors declare that there is no conflict of interests.

References

1. Ranjbar R, Memariani H, Sorouri R, Memariani M (2016). Distribution of virulence genes and genotyping of CTX-M-15-producing *Klebsiella pneumoniae* isolated from patients with com-



- munity-acquired urinary tract infection (CA-UTI). *Microb Pathog*, 100:244-249.
2. Ghafourian S, Bin Sekawi Z, Sadeghifard N, et al (2011). The Prevalence of ESBLs Producing *Klebsiella pneumoniae* Isolates in Some Major Hospitals, Iran. *Open Microbiol J*, 5:91-5.
 3. Ranjbar R, Izadi M, Hafshejani TT, Khamesipour F (2016). Molecular detection and antimicrobial resistance of *Klebsiella pneumoniae* from house flies (*Musca domestica*) in kitchens, farms, hospitals and slaughterhouses. *J Infect Public Health*, 9(4):499-505.
 4. Ranjbar R, Memariani H, Sorouri R (2016). Molecular Epidemiology of Extended-Spectrum Beta-Lactamase-Producing *Klebsiella pneumoniae* Strains Isolated from Children with Urinary Tract Infections. *Arch Pediatr Infect Dis*, 5(2):e39000.