

6th International Congress on

Bacteriology & Infectious Diseases

May 21-22, 2018 | New York, USA

Extended spectrum beta lactamase producing *Enterobacteriaceae* isolates in patients with urinary tract infection and their antibiotic susceptibility pattern in Northern Iran

Mana Baziboroun and Mohammad Sadegh Emam
Babol University of Medical Sciences, Iran

Statement of the Problem: The major mechanism of resistance to antimicrobial agents in urinary tract infections (UTI) between *Escherichia coli* and *Klebsiella pneumoniae* is the production of extended-spectrum beta lactamase (ESBL) enzymes. The purpose of this study was determine the prevalence and antibiotic susceptibility pattern of ESBL producing *E. coli* and *Klebsiella* isolates in patients with UTI in Babol, North of Iran.

Methodology & Theoretical Orientation: A total 4957 urine samples from patients were collected from August 2016 to August 2017. The samples were evaluated for bacterial culture using conventional methods. The prevalence of ESBL producing organisms were determined by double-disk method. Antibiotic susceptibility test for *E. coli* and *Klebsiella* isolates was done by disc diffusion method.

Findings: A total of 352 samples showed growth of pathogens and among 127 *E. coli* and 22 *Klebsiella* isolated from hospitalized patients, 40/94% and 31/8% were ESBL producers, respectively. Moreover, among 84 *E. coli* and 24 *Klebsiella* isolated from outpatient samples, the rate of ESBL production was 29/76% and 12/5% in *E. coli* and *Klebsiella* isolates, respectively. In ESBL producers, the highest percent susceptibility was seen to piperacillin-tazobactam (94.2%), meropenem (90.6%), amikacin (90.7%) and nitrofurantoin (84.6%). While high percent of resistance was found against cefotaxime (95.5%), ceftriaxone (88.9%) and ceftazidime (72.2%) and ciprofloxacin (67.9%).

Conclusion & Significance: We observed a higher percentage of *E. coli* over *Klebsiella* as ESBL producing organisms. Among the oral drugs, nitrofurantoin can be used in uncomplicated UTI and parenteral drugs such as piperacillin- tazobactam, meropenem and amikacin can be the alternative choice for complicated UTI.

Biography

She has received her general physician degree from Babol university of medical sciences at the age of 26 years and completed her specially course in infectious disease from Zahedan university of medical sciences. She is a faculty member of Babol university and works as a physician, researcher and teacher in this educational and therapeutic center. In addition to the frequent disease, considering the region's endemicity, she visit lots of patients with tuberculosis, brucellosis and leptospirosis in the third degree hospital. This approach was done due to excessive use of antibiotics and high prevalence of multi drug resistance UTI in our region.

manabaziboroun@gmail.com

Notes: