

Phenotypic and genotypic assay for detection of extended spectrum B-lactamases production by *Klebsiella pneumoniae* isolates in Emam Reza Hospital in Tabriz, Iran.

Abstract

Objectives of this study were to investigate the prevalence of *K. pneumoniae* producing ESBLs, to evaluate the susceptibility of *K. pneumoniae* producing ESBLs towards non-beta-lactam antibiotics and to study the dominant ESBLs gene in Emam Reza hospital. *K. pneumoniae* producing ESBLs identified by phenotypic and genotypic methods. Polymerase Chain Reaction (PCR) performed for detection of blaSHV, TEM and CTX-M. The findings showed that 43.69%, 13.59%, 7.77%, 11.65% and 23.3% were from UTI, ICUs, surgery ward, lesion infections and RTI, respectively. The results showed that 43.7% of isolates were ESBLs produces. The findings revealed that 26.7%, 6.7%, 20% and 0% of *K.pneumoniae* producing ESBLs were resistant to amikacin, ciprofloxacin, cotrimoxazol and imipenem, respectively. Thirty-nine blaSHV, seven blaTEM and seven blaCTX-M identified among *K.pneumoniae* producing ESBLs. The results reflected in cold month resistant to third generation cephalosporins were more than warm months. Generally, frequency of blaSHV was more than blaCTX-M and blaTEM.

Keyword: Phenotypic; Genotypic; *K.pneumoniae*; Tabriz.