

# **Survey the prevalence of TEM genes and antimicrobial resistance among the *Escherichia coli* and *Klebsiella pneumonia* in patients with nosocomial infections in Shahid beheshti university hospitals in 2011**

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## **Abstract**

**Aim and Background:** Extended spectrum  $\beta$ -lactamases (ESBLs) have emerged as a major threat worldwide with limited treatment options. This study aimed to determine the antibiotic susceptibility pattern and the evaluation of TEM genes producing in *Escherichia coli* and *Klebsiella pneumonia* isolates collected from clinical samples.

**Materials and methods:** Bacteria were isolated and identified from the different samples in patients sent to laboratory of shahid Beheshti University in Tehran in 2011. Isolates were then tested for antimicrobial susceptibility by disc diffusion and examined for TEM genes production by polymerase chain reaction using specific primer.

**Results:** Out of 100 studied nosocomial infection specimens, 50 isolates were *klebsiella pneumonia* of which 34 percent were ESBL producer and all were positive for TEM gene, resistance of Cefotaxime was 90 percent which is the highest degrees of resistance and lowest degrees of resistance to Imipenem was 4 percent.

Among the 50 isolates of *Escherichia coli* of which 14 percent were ESBL producer and all were positive for TEM gene, resistance of Cefexime was 90 percent which is the highest degrees of resistance and lowest degrees of resistance to Meropenem was 6 percent.

**Conclusion:** Due to relatively high prevalence of ESBL-producing bacteria in the studied population, antibiogram test are advised for appropriate treatment.

**Key words:** Antibiotic sensitivity, Extended spectrum beta-lactamase, *Klebsiella pneumoniae*, *Escherichia coli*

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