

عنوان مقاله:

Detection of blaOXA-10 and blaOXA-48 Genes in Pseudomonas aeruginosa Clinical Isolates by Multiplex PCR

محل انتشار:

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خلاصه مقاله:

Introduction: The rapidly increasing extended-spectrum β -lactamase-producing *Pseudomonas aeruginosa* is a threat to health. This study aims to detect the rpoD gene and blaOXA-10 and blaOXA-48 genes in imipenem-resistant *P. aeruginosa* clinical isolates simultaneously by multiplex polymerase chain reaction. **Methods:** Eighty-five culture plates were collected from patients suspected of *Pseudomonas* spp infection in Ghaem Hospital and Shahid Shourideh Clinic in Mashhad from January to February 2021. After biochemical identification of *P. aeruginosa* isolates and the measurement of antibiotic resistance, blaOXA-10, blaOXA-48, and rpoD genes were investigated by multiplex polymerase chain reaction in the imipenem-resistant isolates. **Results:** Of 82 *P. aeruginosa* isolates, 38 (46.34%) were resistant to imipenem, with the highest percentage to carbenicillin (69.5%). All imipenem-resistant *P. aeruginosa* isolates were confirmed by multiplex PCR using the primers that targeted the rpoD gene. Also, in multiplex PCR, among imipenem-resistant isolates, 10 (26.3%) and 9 (23.6%) had blaOXA-10 and blaOXA-48 genes, respectively. **Conclusion:** In addition to molecular identification of *P. aeruginosa*, the present study simultaneously detected blaOXA-10 and blaOXA-48 genes by multiplex PCR. Application of this multiplex PCR, rapid identification of patients, and timely treatment can reduce the β -lactamase gene prevalence in *P. aeruginosa* clinical isolates.

کلمات کلیدی:

Pseudomonas aeruginosa, Multiplex PCR, rpoD gene, blaOXA-10 gene, blaOXA-48 gene

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