University of zabol
Graduate school
Faculty of Veterinary
Department of pathobiology

The Thesis submitted for the Degree of M.Sc

(In the field of bacteriology)

Title:

Detection of the Metallo-*β*-lactamase (New Delhi) Molecule in *Pseudomonas Aeruginosa*

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Abstract

Pseudomonas aeruginosa is a gram-negative bacterium that plays a major role in the development of nosocomial infections. Metallobetalactamase enzymes have the ability to inactivate most beta-lactam antibiotics, including carbapenem. The purpose of this study was to investigate the presence of metallobetalactamase (New Delhi) in Pseudomonas aeruginosa isolates collected from patients admitted to teaching hospitals. Zabol city was by PCR method.

In this study, 66 isolates were identified as Pseudomonas aeruginosa using biochemical methods. The presence of *NDM* gene in all isolates was examined by PCR. Based on the results, 2 isolates (3%) had *NDM* gene.

According to the results, the first identified sample in Sistan and Baluchestan province indicates an increase in antibiotic resistance in this area. Although the rate obtained was low, more control over the use of antibiotics is needed.

Keywords: *Pseudomonas Aeruginosa*, Metallo-*β*-lactamase (Delhi), Antibiotic Resistance