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Study of Biofilm Formation by *Pseudomonas aeroginosa* Using Microtitre Plate in Mueller Hinton Brothand Luria Bertani

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Introduction&Objectives: *Pseudomonas aeroginosa* is an important opportunistic pathogen, causing a wide range ofinfections. Biofilm formation contributes to pathogenesis of *Pseudomonas aeruginosa* lung infections in patients with cystic fibrosis.Cells in the biofilm show higher degree of resistance to antimicrobial therapyand host immune responses compared with planktonic cells.In this study thebiofilm forming ability of clinical isolates of *Pseudomonas aeruginosa* was evaluated in vitro in two Mueller Hinton Broth (MHB) and Luria Bertani (LB)mediums.

Materials&Methods: In this study 75clinical isolates of *Pseudomonas aeroginosa*and standard 8821M strain were included.The isolates were identified by tests. All the bacteria were screened for their ability to form biofilm using the microtitre plate method. Bacterial biofilms were stained with 0.2% safranin. Dye was solubilized using alcohol-Aceton as solvent and theoptical density (OD) was measured at 492nm wavelength. The extent of biofilm formation was determined (OD of sample well-OD of control well). Each assay was performed in triplicate and repeated two times.

Results: The result of biofilm screening revealed that all examined strains were able to form biofilm. In LB medium the ability of strains to form biofilm in1.3%of strain was ≥1, in 37% of strains was between 1- 0.5, and in 62% of strains was≤0.5.In MHB, biofilm forming ability in20% of strains were between 1-0.5 and in 80% of strains was ≤0.5.

Conclusion: Most of studied Pseudomonas strains were highly biofilm producer. Overall,*P. aeroginosa p*roduces more biofilm in LB medium compared with MHB.

Key words: *Pseudomonas aeroginosa,* Biofilm, Mueller Hinton Broth, Luria Bertani