
ABSTRACT

This study aims at identifying the role of flagella in biofilm formation in the clinical isolates and checking whether disruption of flagella causes reduction in biofilm formation ability. Total 10 clinical samples were collected. On the basis of morphological variation and motility, only two strains were selected for further characterization. They were characterized biochemically, physiologically and genetically. According to the results of 16S rRNA sequencing, the strains were *Pseudomonas aeruginosa* and *Enterobacter cloacae*. These strains were tested for biofilm formation using Test tube assay, Congo red assay and Liquid-interface coverslip assay. Strains showed significant biofilm formation by Test tube assay and Liquid-interface coverslip assay. Then, the disintegration of flagella was induced in the strains by blending and centrifugation for variable periods of time i.e. 5, 10 and 15 minutes. Motility test was performed again and the results showed no or negligible motility. After that, the biofilm quantification was done again to observe the reduction in biofilm formation. The significant loss in biofilm formation after 15 minutes of blending confirmed the important contribution of flagella to the initiation of biofilm production as it is the most important determining factor in biofilm formation.