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## Biofilm formation, Antibiotic resistance and Detection of mannose-resistant Proteus-like (MR/P) fimbriae genes in *Proteus mirabilis* isolated from UTI.

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Abstract: P. mirabilis is among the most frequently recovered etiologic agents from urinary tract infections. This pathogen can generate a biofilm as one of its important virulence factors and there is increasing evidence for the role of bacterial biofilm in antibiotics resistance. This study was aimed to determine the correlation between antibiotic resistance patterns and the biofilm formation capacity of clinical P. mirabilis isolates, also detection some (MR/P) fimbriae genes. The antibiotics susceptibilities of P. mirabilis strains isolated from different UTI by a disc-diffusion method were investigated. Biofilm formation was determined by a crystal violet binding assay. Uniplex and multiplex PCR were used for genes detection. Out of 529 urine samples, P. mirabilis was isolated from 85 (43.58%) samples. Of total 85 uropathogenic strains of P. mirabilis, 34 (40%) were strong biofilm producers, 21 (24.7%) were moderate biofilm producers, 18 (21.17%) were weak biofilm producers and 12 (14.11%) were biofilm non producers. The highest numbers of the isolates were susceptible to Amoxicillin followed by Piperacillin, Cephalexin, Ceftazidime, Cefotaxime and Cefixime. The most of isolates showed moderate resistance to Cefepime and Ceftriaxone. Also the highest numbers of the strains were susceptible to Aztreonam. The results of this study revealed the dominance of ureC gene among P. mirabilis isolates (88.23%). Also the results demonstrated the presence of fimbrial genes mrpA, and mrpH in 81.17 % and 72.94% of the isolates respectively. Present study concluded that there was higher resistance rate to antimicrobial agents among biofilm producing isolates of P. mirabilis than that in biofilm non producing strains, also we found a significant correlation between the presence of fimbrial genes (mrpA and mrpH) and biofilm formation.

Key words : *P. mirabilis*, biofilm, antibiotic resistance,(MR/P) fimbriae genes.

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