

Title: VIRULENCE FACTORS OF ISOLATED CLINICAL OF *PSEUDOMONAS AERUGINOSA* MULTIDRUG SENSITIVE AND MULTIDRUG RESISTANT RECIFE-PE

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Abstract:

Currently hospital infections caused by *Pseudomonas aeruginosa* has been a great challenge for antimicrobial therapy, since these commonly have presented a broad spectrum of resistance resulting in isolated multidrug resistant (MDR). This caused the need for research on their physiology, especially in relation to its various virulence factors that contribute to shaping the potential pathogenicity of the infectious process. However there is little information on the investigations that compare phenotypic differences in strains MDR *P. aeruginosa* and multidrug sensitive (MDS) in the literature. This study included 30 clinical isolates of *P. aeruginosa* (15 classified as MDS and 15 as MDR) from different sites of infection of two public hospitals in Recife-PE, that were so classified accordance with the results of the antibiogram. All isolates were subjected to phenotypic test for identification of the production of pigments, hemolysin and protease. A large production of virulence factors on both category of isolates was observed. As for pigment production MDS isolates showed a greater diversity (100% pyoverdine, 33.3% pyocyanin and 6.7% pyomelanin) compared to MDR (100% pyoverdine and 40% pyocyanin). 13.3% of MDS isolated and 6.7% of MDR did not present hemolysin activity. Only 6.7% of MDS MDR isolates showed no protease activity. The trend observed in some studies in the literature on reducing virulence factors expression in multidrug resistant strains of *Pseudomonas aeruginosa* was not observed among isolates in study. No significant differences were observed between MDR and MDS strains of virulence factors studied, but the presence of these virulence factors in almost all isolates studied alerts us to the high level of pathogenicity isolated derived from nosocomial infections found in public hospitals in Recife PE.

Keywords: multidrug resistant, multidrug sensitive, *Pseudomonas aeruginosa*, virulence

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