

TITLE: BIOLOGICAL CHARACTERIZATION OF KLEBSIELLA PNEUMONIAE CLINICAL ISOLATES FROM HOSPITAL UNIVERSITÁRIO DE BRASÍLIA, DF (HUB/UNB).

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ABSTRACT :

Klebsiella pneumoniae is one of the most common causing of nosocomial infections. Because the biofilm formation capacity and resistance to antibiotics exhibited by these strains, the treatment is frequently arduous and sophisticated. Additionally, a new variant of *K. pneumoniae* presenting hypermucoviscous capsule has emerged in recent years. This new variant presents the overexpression of the polysaccharide capsule, and it's affects healthy patients. Among the syndromes caused in healthy patients, the most common is the piogenic liver abcess; the increasing in the number of such syndromes has increased surveillance in order to avoid community-acquired infection in younger healthy patients. The aim of this study was to characterize the biofilm production and to identify the hypermucoviscosity phenotype among 103 strains of *K. pneumoniae* isolated at Hospital Universitário de Brasília(HUB/UnB). To characterize the biofilm formation, the strains were cultured in triplicate in a 96-well plate, and the absorbance of each well was measured and compared to a control. According to the mean value of the triplicates, the strain was defined as a strong, moderate or weak biofilm producer. In order to check the hypermucoviscous phenotype, the string test was performed. The string test is positive when bacteriology inoculation loop is able to generate a viscous string > 5 mm in length by stretching bacterial colonies on an agar plate. The majority of strains obtained were isolated from outpatients suffering urinary tract infections (80%). Among all strain analyzed, 72% presented strong biofilm, 15% moderate and 13% weak biofilm. In both, hypermucoviscous strains (61%) and non-hypermucoviscous strains (72%), the production of strong biofilm was higher, followed by moderate and weak strains. The results showed the high prevalence of *K. pneumoniae* strains presenting hypermuscoviscous phenotype and strong biofilm.

KEY WORDS: *Klebsiella pneumoniae*, hiper mucoviscous, biofilm.

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