

**TITLE:** *KLEBSIELLA PNEUMONIAE* AS AN IMPORTANT REPRESENTATIVE OF A MAJOR PUBLIC HEALTH PROBLEM

**AUTHORS:** ALMEIDA, A.M.; CORREA, A.S.; MENEZES, M.R.O.; GERACE, D.N.; DUARTE, C.M.; BRANDÃO, P.M.; GONÇALVES, I.R.; CAMPOS, P.A.; RIBAS, R. M.; BORGES, L.F.A.

**INSTITUTION:** UNIVERSIDADE FEDERAL DE UBERLÂNDIA, UBERLÂNDIA, MG (AV. PARÁ, 1720, CEP: 38400-902 – CAMPUS UMUARAMA, UBERLÂNDIA, MG - BRAZIL)

**ABSTRACT:**

*Klebsiella pneumoniae* (Enterobacteriaceae) is one of the main microorganisms occurring in hospitals and very resistant to antimicrobials used in clinical practice. The main goal of the present study was to investigate the resistance patterns of clinic samples of *Klebsiella pneumoniae* at a public hospital in the municipality of Uberlândia, state of Minas Gerais, southeastern Brazil. We analyzed 42 samples of *Klebsiella pneumoniae* resistant to carbapenemic antibiotics, considering the resistance patterns to other antimicrobials and their classes, as well as classifying them in multiresistant or extensively resistant and confirmation of gene *blaKPC*. Our results showed that most samples had come from outside Intensive Care Units (ICUs), urinary infection, and resistance to fluoroquinolone, penicillanic, cephalosporinic, and monobactamic antibiotics. Moreover, it was observed 4% of resistance to Polymyxin B and most isolates showed to be extensively resistant. In addition, a PCR test was performed to detect the *blaKPC* gene in 26 samples, 6 (23.1%) of the ICU samples and 20 (76.9%) of other units. The presence of KPC enzyme was confirmed in 24/26 (92.3%). Thus, isolated cultures revealed to be resistant to the main antimicrobials, particularly resistant in ITUs and especially in 2014. Confirmation of the presence of the enzyme KPC more than 90% of the samples show the spread of this organism within the hospital environment in addition, to a disturbing resistance to Polymyxin. It is known that many different factors affect the development of microbial resistance and, thus, it is necessary to increase preventive measures by applying the best practices to the common routine of patient assistance, involving increased disinfection of the environment, continued guidance and attention to the process of hand cleaning by health personnel, besides the appropriate control of the antimicrobials to be used.

**Keywords:** *Klebsiella pneumoniae*, resistance, *Klebsiella pneumoniae* Carbapenemase

**Development Agency:** Universidad Federal of Uberlândia