

TITLE: CLINICAL ISOLATES OF *Klebsiella pneumoniae* CARRYING OF *bla*_{NDM} and *bla*_{KPC} FROM INFECTION AND COLONIZATION IN PATIENTS FROM A PUBLIC HOSPITAL OF RECIFE-PE, BRAZIL.

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Klebsiella pneumoniae is an enterobacteria which stands out for the resistance to carbapenems, being this resistance more related to the production of beta-lactamases. Therefore, the objective of this study was to detect the occurrence of carbapenemases genes (*bla*_{KPC}, *bla*_{NDM}, *bla*_{GES}, *bla*_{VIM} e *bla*_{IMP}), as well as the clonal relationship of *K. pneumoniae* isolates from colonization and infection in patients from a public hospital in Recife-PE, Brazil, between 2017 and 2018. Twenty-seven isolates of *K. pneumoniae*, resistant to at least one carbapenem, from colonization (surveillance culture: rectal swab) and infection were analyzed. The resistance genes investigation was performed by PCR and amplicons sequencing. By ERIC-PCR analysis, twelve different genetic profiles were found among the 27 *K. pneumoniae* clinical isolates. On the other hand, clonal relationship was also detected in some isolates from different hospital sectors and among colonized and infected patients, showing the dissemination capacity of *K. pneumoniae*. The *bla*_{KPC} and *bla*_{NDM} genes were detected in 24 (88.8%) and 16 (59.2%) *K. pneumoniae* isolates, respectively, and 13 isolates (48.1%) simultaneously presented *bla*_{KPC} and *bla*_{NDM}. The concomitance of *bla*_{KPC} and *bla*_{NDM} deserves attention by the accumulation of these genetic mechanisms of resistance in the same bacterial species, further limiting therapeutic options. These data also indicate that *bla*_{KPC} remains the main carbapenemase gene associated with clinical isolates of *K. pneumoniae* in Recife-PE, Brazil, and alert to the emergence of *bla*_{NDM}. On the other hand, *bla*_{GES}, *bla*_{VIM} and *bla*_{IMP} genes were not detected. The positivity for *bla*_{KPC} and *bla*_{NDM}, in infection and colonization isolates, show the importance of surveillance cultures in hospitalized patients, as well as the isolation of colonized patients to prevent the transmission of this bacterial species and its resistance genes.

Keywords: *K. pneumoniae*, carbapenemase, *bla*_{KPC}, *bla*_{NDM}

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