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# Prevalence rate of *Klebsiella pneumonia* in the ICU: Molecular and epidemiological characteristics

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*Klebsiella pneumoniae* carbapenemase – KPC producing bacteria are defined as a group of Gram-negative bacilli that is highly resistant to drugs. They cause lethal infections and illnesses. The main aim of the current study is to explore and confirm the occurrence of carbapenemase producing *Klebsiella pneumonia* in the ICU different compartments of an Egyptian hospital in Cairo. The study will focus in particular on the molecular class A KPC and the molecular class B MBL specifically the imipenem resistant phenotype carbapenemase (IMP) and Verona integrin-encoded metallo-beta-lactamase (VIM) producers. Isolates were collected from several compartments of the Intensive Care Unit in a private hospital in Cairo, Egypt. The screening criteria of carbapenemase producing bacteria were followed by the investigator in order to record the antimicrobial resistance patterns of all isolates. Furthermore, the modified Hodge test (MHT) was used as the instrument for detecting the carbapenemase producing isolates. Phenotypic detection of KPCs and MBLs was confirmed by the detection of $bla_{KPC}$, $bla_{IMP}$ and $bla_{VIM}$. It was also combined with disc tests in MHT positive isolates. At the end of the study, the investigators determined the compartment/s responsible for the spreading of CRKP as well as the type of the isolates occurred and how to avoid spreading and how to control it. It is worth noting that this study is considered the first report on the emergence of IMP and VIM producing *Klebsiella pneumonia* in the ICU compartments in Egypt. We concluded that infection control department policies in each hospital should be reinforced to evade the blowout of these bacteria in our hospitals. Also, this study should be repeated in other hospitals (especially the public hospitals) to assess the level of the problem.

**Notes:**