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ABOUT COVER

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AIMS AND SCOPE

The primary aim of *World Journal of Clinical Cases* (*WJCC*, *World J Clin Cases*) is to provide scholars and readers from various fields of clinical medicine with a platform to publish high-quality clinical research articles and communicate their research findings online.

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LETTER TO THE EDITOR

Is every microorganism detected in the intensive care unit a nosocomial infection? Isn't prevention more important than detection?

Fatma Yildirim, Irem Karaman, Mehmet Yildirim

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Abstract

The present letter to the editor is related to the study entitled "Multidrug-resistant organisms in intensive care units and logistic analysis of risk factors." Not every microorganism grown in samples taken from critically ill patients can be considered as an infectious agent. Accurate and adequate information about nosocomial infections is essential in introducing effective prevention programs in hospitals. Therefore, the development and implementation of care bundles for frequently used medical devices and invasive treatment devices (*e.g.*, intravenous catheters and invasive ventilation), adequate staffing not only for physicians, nurses, and other medical staff but also for housekeeping staff, and infection surveillance and motivational feedback are key points of infection prevention in the intensive care unit.

Key Words: Critical care; Prevention; Intensive care unit; Nosocomial infection; Detection

Core Tip: Microorganisms grown from every sample taken from critically ill patients cannot be considered as an infectious agent. Development and implementation of care bundles for frequently used medical devices and invasive treatment devices (*e.g.*, intravenous catheters and invasive ventilation), adequate staffing not only for physicians, nurses and other medical staff but also for housekeeping staff, and infection surveillance and motivational feedback are key points of infection prevention in the intensive care unit. Providing accurate and adequate information about nosocomial infections is essential in introducing effective prevention programs in hospitals.

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TO THE EDITOR

We recently read with great interest the manuscript by Han *et al*[1] entitled "Multidrug-resistant organisms in intensive care units and logistic analysis of risk factors," which was published in the last issue of *World J Clin Cases*. We would like to state that the article is very detailed, and we have benefited from it in many points. However, we would like to humbly highlight some parts of their paper. They analyzed 2070 samples from critically ill patients in the intensive care unit (ICU). They found that 55.1% of the samples were sputum, 25.2% blood, and 5.7% other drainage fluids. Most commonly detected pathogens were *Acinetobacter baumannii* (*A. baumannii*), *Escherichia coli*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, and *Staphylococcus aureus* with a detection rate of 35.97% (378/1051). In addition, detection rate of *Klebsiella pneumoniae* was 9.42% (99/1051), which was generally resistant to multiple antimicrobial drugs. This study pointed out some critical issues; however, there are some practical questions to be answered for a proper clinical extrapolation.

First of all, when we look at the study from the perspective of intensivists, the most important limitation of this study is the lack of definition of infections. In order to distinguish between contamination and colonization, it is necessary to define ventilator-associated pneumonia, blood-catheter-associated infection, and urinary tract infection according to the Centers of Disease Control criteria[2]. Not every microorganism grown in samples taken from critically ill patients can be considered an infectious agent.

Secondly, accurate and adequate information about nosocomial infections is essential in introducing effective prevention programs in hospitals. Therefore, the development and implementation of care bundles for frequently used medical devices and invasive treatment devices (*e.g.*, intravenous catheters and invasive ventilation), adequate staffing not only for physicians, nurses, and other medical staff but also for housekeeping staff, and infection surveillance and motivational feedback are key points of infection prevention in the ICU. It is recommended to use infection prevention packages for the prevention of nosocomial ventilator-associated pneumonia, blood-catheter infection, urinary tract infection, and other infections in the ICU and to check compliance with these packages, particularly by the infection control committee[3,4]. In the study of Han *et al*[1], although one of the authors was affiliated with an infection control committee, the control precautionary packages and the rates of compliance with the precautionary packages in the ICU were not mentioned in the study. If one of the aims of the study was to examine the risk factors for the development of nosocomial infection in the ICU, the rates of compliance with these infection prevention packages should be included in the study.

In the study of Han *et al*[1] where the rate of intubated patients was 98.1%, resistance rates of *A. baumannii* to minocycline in 2017 and 2019 were found as 28.41% and 32.42%, respectively; whereas meropenem resistance was 74.6%, and the imipenem resistance rate was 75.66%. Carbapenem resistance of *A. baumannii* has increased from 2005 to 2018 all over the world, which is an important issue. A study conducted by Talan *et al*[5] in our country detected *A. baumannii* in 25.6% of patients between February 2013 and January 2014 in intubated patients, and while all of them were resistant to carbapenems, colistin resistance was found in 27.2%. *A. baumannii r*esistance in Turkey is much higher. The reason for this is the widespread use of antibiotics in the community before admission to the hospital in our country. The discussion of Han *et al*[1] of this high carbapenem and polymxin resistance in their study will add strength to their study.

FOOTNOTES

Author contributions: All authors have contributed sufficiently to the manuscript.

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