

Retrospective Study of Positive Blood Cultures Carried out in the Microbiology Department of General Hospital of Ioannina in 2017

Authors : M. Gerasimou, S. Mantzoukis, P. Christodoulou, N. Varsamis, G. Kolliopoulou, N. Zotos

Abstract : Purpose: Microbial infection of the blood is a serious condition where bacteria invade the bloodstream and cause systemic disease. In such cases, blood cultures are performed. Blood cultures are a key diagnostic test for intensive care unit (ICU) patients. Material and method: The BacT/Alert system, which measures the production of carbon dioxide with metabolic organisms, is used. The positive result in the BacT/Alert system is followed by culture in the following selective media: Blood, Mac Conkey No 2, Chocolate, Mueller Hinton, Chapman and Sabaureaud agar. Gram staining method was used to differentiate bacterial species. The microorganisms were identified by biochemical techniques in the automated Microscan (Siemens) system and followed by a sensitivity test on the same system using the minimum inhibitory concentration MIC technique. The sensitivity test is verified by a Kirby Bauer-based test. Results: In 2017 the Laboratory of Microbiology received 3347 blood cultures. Of these, 170 came from the ICU. 116 found positive. Of these *S. epidermidis* was identified in 42, *A. baumannii* in 27, *K. pneumoniae* in 12 (4 of these KPC 'Klebsiella pneumoniae carbapenemase'), *S. hominis* in 8, *E. faecium* in 7, *E. faecalis* in 5, *P. aeruginosa* in 3, *C. albicans* in 3, *S. capitis* in 2, *K. oxytoca* in 2, *P. mirabilis* in 2, *E. coli* in 1, *S. intermedium* in 1 and *S. lugdunensis* in 1. Conclusions: The study of epidemiological data and microbial resistance phenotypes is essential for the choice of therapeutic regimen for the early treatment and limitation of multivalent strains, while it is a crucial factor to solve diagnostic problems.

Keywords : blood culture, bloodstream, infection, intensive care unit

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