EuroSciCon

EuroSciCon Conference on
Virology and Infectious Diseases

April 22-23, 2019
Athens, Greece

Virna Maria Tsitou et al., Arch Clin Microbiol 2019, Volume:10
DOI: 10.4172/1989-8436-C1-018

PCR DETECTION OF *STAPHYLOCOCCUS AUREUS* AND *MECA* GENE IN PATIENTS WITH INVASIVE INFECTIONS

Virna Maria Tsitou, Ivan Mitov and Raina Gergova
Medical University Sofia, Bulgaria

Invasive infections caused by methicllin resistant *Staphylococcus aureus* and coagulaso-negative Staphylococci (MRSA/MRSCoN) require fast laboratory detection and start of adequate treatment. The aim of this study was to develop a new faster protocol for direct detection of MRSA/MRSCoN in blood cultures and in abscess punctures. For this purpose were used polymerase-chain reaction (PCR) by primers for species specific identification of S aureus and methicllin resistance gene *mecA*. We examined 85 growth-positive BACTEC blood cultures and 56 abscess punctures by routine microbiological assay and simultaneous PCR detection of MRSA/MRSCoN. The specificity of the PCR was evaluated by using DNA from another 16 microbial species for negative controls. We determined the susceptibility to methicillin by disc cefoxitine according EUCAST 2019 criteria and minimum inhibitory concentration (MIC) of oxacillin against the S aureus isolates using the E-test. In the blood cultures, the two methods detected near 40% MRSA, resp. 94% MRCoNS. In the punctures, the PCR assay identified near 20% MRSA. The PCR and the routine microbiological results for the blood samples are fully consistent but the new method was faster (only a few hours were need). Among the punctures, there were five PCR MRSA positive and culture negative samples. The new PCR protocol was more sensitive and again faster for detecting MRSA from abscess punctures than the routine microbiological techniques. This molecular-genetic test will speed up the right choice of empirical therapy, which is extremely important for saving patients' lives

Biography

Virna Maria Tsitou has completed her Specialty Doctor of Medicines from Medical University of Sofia- Bulgaria in 2011. She worked in Emergency Department in "Prevent DCC" hospital from 2009-2012. She has also worked as Intern in Dermatology Department in "Tokuda Hospital" in Sofia Bulgaria from 2010-2013 and Intern in Microbiology Department in "ISUL-TSARITSA IOANNA" hospital in Sofia Bulgaria from 2013-2014. She has served as a Specialist Microbiologist in the Department of Medical Microbiology in Medical University Sofia–Bulgaria from 2014-2018. She is working as an Assistant Professor in the Department of Medical Microbiology in Medical University Sofia–Bulgaria since 2016. She is fluent in Greek, English and Bulgarian language. Her participation in Congresses is very active because she wants to share her research findings with other scientists from the Microbiological Community and also keep up with the scientific innovations in Bulgaria but also abroad.

Maria-Tsitou@hotmail.co.uk