EVALUATION OF RAPID E TEST MIC TESTING USING CHROM AGAR ON LOWER RESPIRATORY TRACT SAMPLES; COLLECTED FROM ICU FROM PATIENTS WITH SUSPECTED VENTILATOR ASSOCIATED PNEUMONIACATEGORY: LESSON IN MICROBIOLOGY & INFECTION CONTROL

AARTI SHAH, DAVID WAREHAM
Barts And The London NHS Trust, London, United Kingdom

Introduction

Ventilator-associated pneumonia is the most frequent nosocomial infection in intensive care units (ICU) and causes high mortality. Approximately 50% of all antibiotics in ICUs are administered for the treatment of respiratory tract infections. Prompt and appropriate antibiotic treatment is paramount for a favourable clinical outcome as any delay in diagnosis and treatment will result in increased mortality.

Scientific findings

We compared the direct E- test susceptibility testing on a CHROMagar on lower respiratory tract samples with a standard laboratory testing. A total of 68 LRT samples from ITU were processed by direct E test on Chromogenic agar. Vancomycin, Augmentin, Ceftazidime, Ciprofloxacin, Tazocin, Imipenem, Meropenem, Cefotaxime, Colistin, Tigecycline and Amikacin were antimicrobials evaluated.

Cultures were 48 monomicrobial and 11 polymicrobial. 92.5% of the isolates were recovered by the direct E- test on CHROM agar. Among the 510 microorganism-antibiotic combinations evaluated, there was a total agreement with the reference method in 93.5%. There were 3 major errors and 30 minor errors.

Discussion

The direct E-test on a CHROMagar on respiratory samples from patients admitted to ICUs is a simple technique that provides early determination of identity of microorganism and antimicrobial susceptibility data including global MIC, which may be crucial for modifying therapeutic regimens. Results obtained with this technique are comparable with that obtained by standard methods, and the costs and benefits of its application will establish the circumstances in which it is of value.

Conclusions

Readings of Direct E test on CHROMagar were easy to interpret and improved with transmitted light. DET on CHROMagar on respiratory samples is a rapid technique that provides identification and susceptibility results in 18 to 24 hours comparable with this obtained by Standard culture and susceptibility technique.