Antibiotic Resistance of Community-Acquired Staphylococcus Aureus

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Abstract

BACKGROUND:

Extravagant use of vancomycin as first line treatment of infections caused by this organism, has led to production of vancomycin resistant staphylococci and enterococci, as an important health problem. The goal of this study was determining sensitivity of S.aureus isolated from clinical specimens outside hospital using E-Test in order to find suitable primary therapeutic method and to reduce vancomycin use.

METHODS:

This cross-sectional study was performed in 2006 among 60 samples of community- acquired S.aureus Minimal Inhibitory Concentration (MIC) for various antibiotics against organisms was determined by E-test method. Qualitative control was performed by staphylococcus ATCC29213 and statistical analysis was done by SPSS ver 13 and WHONET- 5 softwares.

FINDINGS:

Overall, 60 patients (including 10 women and 50 men) were included in the study. The specimen studied were 47% from blood, 30% from skin ulcer, 11.7% from evacuated abscess and 8.3% from synovial fluid. Sensitivity percentage of organisms based on break point used in CLSI M7A6 (Clinical & Laboratory Standard Institute) for various antibiotics was 88.6% for Co-Amoxiclav, 81.8% for Amikacin, 79.3% for Gentamicin, 82.1% for Cephalothin, 75% for Ciprofloxacin, 75% for Clindamycin, 76.7% for Oxacillin, 90.5% for Rifampin and 77.8% for Vancomycin. Highest resistance was noted against Oxacillin ($p<0.01$), Clindomycin ($p<0.01$) and aminoglycosides ($p<0.05$) and definite resistance against Vancomycin was present in only one sample.

CONCLUSION:

Staphylococcus aureus is among the most prevalent agents of hospital infection which shows increasing resistance and still has acceptable sensitivity to Cephalothin, Oxacillin and other first-line treatment drugs in community-acquired infections and empirical use of Vancomycin is not necessary in these patients.

KEY WORDS:

Staphylococcus aureus, sensitivity, resistancy, E-test, MIC.