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**ePoster Viewing**

**Antimicrobials: resistance surveillance**

# Comparative analysis of different antibiotic susceptibility tests among 670 *mecA*-positive MRSA from sterile sites (TIST study, 2006-2010)

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**Background:** MRSA causes severe infections with considerable morbidity. Antimicrobial susceptibility test (AST) help physicians to choose appropriate antibiotics and to save lives. The goal is to compare various AST results of MRSA against antibiotics.

**Materials and Methods:** MRSA from sterile sites were collected from 22 hospitals (**T**igecycline ***I****n-vitro* **S**urveillance in **T**aiwan – TIST 2006-2010) and tested of MIC against antibiotics with variable AST: agar dilution for oxacillin (OX) and vancomycin (VA); Etest for VA and daptomycin (DAP), and Vitek-II automated system for OX, VA, and DAP. Molecular types including SCC*mec*, *spa*, and *dru* were determined by PCR and nucleotide sequencing. The differences of MICs by various AST and correlation of MICs with molecular types were analyzed.

**Results:** Totally, 670 *mecA*+ MRSA from sterile sites were collected. The $MIC_{50}/MIC_{90}$ against VA by agar dilution, Etest, and Vitek-II were 1.5/2, 2/2 and 1/1 mg/L, respectively. The DAP $MIC_{50}/MIC_{90}$ by Etest and Vitek-II were 0.25/0.38 and 1/1 mg/L, respectively. The OX $MIC_{50}/MIC_{90}$ by agar dilution and Vitek-II were 256/>256 and ?4/?4 mg/L, respectively. The VA arithmetic/geometric mean MICs by Etest (1.87/1.81 mg/L) were higher than agar dilution (1.42/1.36 mg/L) and Vitek-II (0.94/0.87 mg/L) ($p < 0.001$). In contrast, the DAP arithmetic/geometric mean MICs by Etest (0.28/0.24 mg/L) were lower than Vitek-II (0.79/0.67 mg/L) ($p < 0.001$). The number of OX MIC ?4 mg/L (i.e., resistant phenotype) by agar dilution was more than Vitek-II ($p < 0.001$). Higher VA MICs were noted in molecularly HA-MRSA (e.g., SCC*mec*II & III; *spa* t002 & t037; *dru*4, 13, and 14) than CA-MRSA (e.g., SCC*mec*IV, V, and $V_T$; *spa* t437 & t1081; *dru*9 & 11) ($p < 0.05$).

**Conclusions:** Significant differences between AST against VA, DAP, and OX were found among MRSA. Increase in VA MIC may predict treatment failure in patients infected with HA-MRSA.