



MRSA : a Continuing Problem in the Hospital

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Background The rising of rates of MRSA isolated from patients with hospital acquired infection (HAI), and the developing of some strains of MRSA or MRSE intermediate or resistant to vancomycin, made MRSA infection a more serious worldwide problem in the hospital.

Methods A well-designed and quality controlled bacterial resistance surveillance was conducted by using agar dilution method to detect MIC50 and MIC50, as well as the resistant rate (R%), intermediate rate (I%), and susceptible rate (S%) of Gram positive cocci to the test drugs, and to compare the rates of MRSA and MRSE in patients with HAI or community acquired infection (CAI), and the rates of strains of *S. aureus* and *S. epidermidis* resistant or intermediate to vancomycin.

Results In the surveillance years of 2000~2001, total 2401 pathogenic strains were isolated from patients in the study wards in 13 selected hospitals, among them, 805 strains were Gram positive cocci. The rate of MRSA was 37.4% (89/238). The rate of MRSA from HAI patients caused by *S. aureus* was 89.2% (33/37) which was significantly higher than that 30.2% (42/139) from CAI patients ($p<0.01$). In the surveillance years of 1998~1999, 1 of 134 strains (0.75%) of *S. epidermidis* and 2 of 62 strains (3.23%) of *S. hemolyticus* were found intermediate to vancomycin (MIC 8-16 mg/L). However, in the years of 2000~2001, we didn't find any strain of *Staphylococcus* resistant or intermediate to vancomycin. Moxifloxacin showed good activity against MRSA with susceptible rate of 86.6%.

Conclusions (1) Data from China BRSSG (2000~2001) showed that the rate of MRSA from HAI was high as 89.2%. (2) VISA or VI-CNS has been worldwide reported (including China) since 1997, and two identified VRSA clinical strains isolated from ORSA patients were reported by U.S. CDC MMWR in 2002. (3) The accurate detection of Gram positive cocci with reduced susceptibility should be done better with a qualitative method such as broth dilution or agar dilution method.