

**Project No** : 4075/2010

**INVESTIGATION OF REDUCED SUSCEPTIBILITY TO VANCOMYCIN AMONG  
METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS**

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**OBJECTIVES**

1. To assess prevalence of VISA and VRSA by using MIC by agar dilution method among MRSA isolates from various clinical isolates.
2. To compare antibiotic resistance pattern including teicoplanin in VSSA and non-VSSA.
3. To compare Vancomycin-E test with agar dilution method in diagnosis of VISA and VRSA.
4. To determine hVISA prevalence by PAP-AUC method.
5. To evaluate BHI6V screening method, Hiramatschu, Gradient Plate, MIC by agar dilution, E test and Vancomycin MET against PAP AUC in diagnosis of hVISA.
6. To study the molecular mechanism of resistance of VRSA by identification of vanA, van B genes

**METHODOLOGY**

Study was conducted between Sep 2010 and Mar 2013 at Dept of microbiology AFMC Pune. Non repeat isolates of MRSA from various clinical specimens were used. All isolates were tested for their susceptibility to various antibiotics. Phenotypic and genotypic identification of MRSA was done. Other tests done were: PCR, MIC by agar dilution method, Vancomycin MIC by E-test, PAP AUC, BHI agar 6 µg/ml Vancomycin screening, Vancomycin MIC by gradient plates, Macromethod E test for Vancomycin, Teicoplanin susceptibility testing, Multiplex PCR for vanA and van B. Comparison of various diagnostic tests was done using MIC by agar dilution as gold standard.

**RESULTS**

MRSA are resistant to commonly used antibiotics. Vancomycin is the drug of choice for MRSA. Two isolates among 232 study isolates were identified as VISA. Van A and van B mediated resistance was not found.

**CONCLUSION**

Testing and surveillance of MRSA isolates for Vancomycin susceptibility by undertaking Vancomycin MIC by agar dilution method and reporting as per CLSI guidelines should be part of routine reporting.