

Abstract

Methicillin Resistant Staphylococcus aureus (MRSA) is an important human pathogen. It causes nosocomial and community acquired infections. They are emerging as a serious public-health issue. MRSA is present throughout hospitals in many countries. Nowadays it is the most commonly isolated antimicrobial resistant pathogen worldwide.

Resistance to penicillin by Staphylococcus aureus strains after the use of penicillin started emerging in 1940s (75 - 95%) - mainly the hospital strains.

AIMS-To detect the prevalence of MRSA strains from the various clinical specimens by phenotypic and genotypic methods, like antibiotic susceptibility pattern of MRSA isolates ,by cefoxitin disc diffusion method and PCR for mec A gene and to determine Vancomycin and Oxacillin MIC ..

This prospective study included 182 Staphylococcus aureus strains which were isolated from different clinical specimens, Maduranthagam Taluk during the period from April 2015 to July 2016.

RESULTS- In the present study prevalence of MRSA was 45% in S. aureus from the hospital specimens, gender distribution was 51 female: 49 male, age distribution was predominantly 31 – 40years (26.8%), Specimen : Majority of the isolates were from pus - 62% followed by urine -28%. High resistance was observed among these strains to penicillin, ciprofloxacin, and cotrimoxazole, low resistance to amikacin, 100% sensitivity were observed to vancomycin and linezolid. PCR for mecA genes remains to be the gold standard for the evaluation of MRSA.

MRSA is treated with Vancomycin all beta lactam antibiotics should be avoided. Newer drugs like tecoplanin, daptomycin, quinupristin / dalfopristin, tigecycline and fifth generation cephalosporins - ceftobiprole, ceftibuten show some activity against MRSA.

KEYWORDS-MRSA, cefoxitin disc diffusion, mec Agene, PCR, Vancomycin