Research Article

Isolation and Charcterization of Staphylococcus Aureus Isolated from Pus Sample of Hospitalized Patients in Tertiary Care Hospital

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ABSTRACT

Hospital acquired infections are those that originate or taking place in a hospital acquired especially in reference to an infection .A total 150 samples were processed in which 78 samples were positive isolates . Out of 78 samples 24 isolates were confirmed as Staphylococcus aureus by Gram's staining and Biochemical tests. Our study shows an alarmingly high incidence of ***Staphylococcus aureus*** infection in this hospital. Such a high prevalence of S.aureus in our study may be due to several factors like indiscriminate use of antibiotics, lack of awareness transmission from other patients through health care workers During our work I evaluated different phenotypic test for the detection of S.aureus.

Keywords:- *Staphylococcus aureus,* nosocomial bacteremia, Gram's staining.

INTRODUCTION

A hospital acquired infection is a infection that develops in a patient during hospitalization that is defined at least 48 to78 hours patients develops a fever or other symptoms early reported at Least 5% of patients became infected during hospitalization.(Mayhale et al , 1999).The four most common types of hospital acquired infections are urinary tract infections, surgical infections , nosocomial pneumonia and nosocomial bacteremia(Teresa et al,2008) (Fridkin 1997).The risk factors which contribute to staphylococcus aureus infections are excessive antibiotic usage ,prolonged hospitalization,poor state of health ,advanced age or premature birth, intravascular catheterization and hospitalization in intensive care unit (Donowitz et al, 1984).Today staphylococcus aureus has become resistant to many commonly antibiotics.

MATERIALS AND METHODS

A total of 150 pus samples were isolated wards [MSW, OPD, ICU, CHDS, NSW, OMRS, OMRS, and USF.] CHHATRAPATI SHAHUJI MAHARAJ MEDICAL UNIVERSITY LUCKNOW. These samples were dipped in to the Robertson cooked meat medium (RCM), and incubated at 37.C for overnight a subculture on Blood agar plates was done and incubate at 37.C for 18 hours plates were ready for presence of any growth. Positive culture processed in a usual manner for identification examination of gram stain films and relevant by biochemical test(imvic,urea,catalase,coagulase etc.) for the purpose of identification of ***staphylococcus aureus.*** Antibiotic susceptibility (amoxycylinclavulaniacid, levofloxacin,tetracycline,clindamycin,ciprofloxacin ,septron ,erythromycin linezolid) test was performed against the relevant antibiotics on Mueller Hinton agar plate .

RESULT AND DISCUSSION

A total 150 pus samples were processed in which 78 pus samples were positive isolates out of 78 samples 24 samples 24 isolate were confirmed as staphylococcus aureus .

Many studies have been undertaken to determine the organism responsible for hospital acquired infections .Result have varied in different part of the world comparatively high culture positivity rates has been reported by S.Anupurba study showed that out of total 549 strain 301 were found to be penicillin resistant .The only report which has given somewhat similar result i.e. 51.6% from LN hospitals new Delhi.

Our study shows an alarmingly high incidence of staphylococcus aureus infection in this hospital, such a high prevalence of staphylococcus aureus in our study may be due to several factors like indiscriminate use of antibiotics , lack of awareness, transmission from other patients through health care worker.

Data given in table 1 reveald that prevalence rate of organism causing pus infection were , Staphylococcus aureus >E.coli> Acinetobacter>Pseudomonas spps>Enterococcus spps>Citrobacter spps>Enterobacter spps>Klebsiella spps.

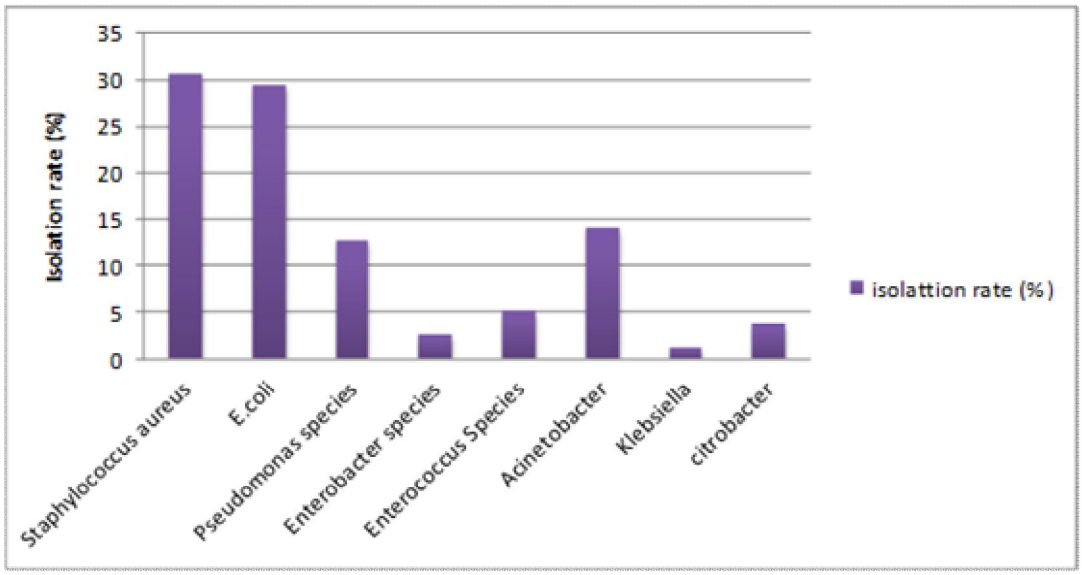

Table 1

Data given in table 2 has shown the order of decreasing resistsant of Staphylococcus aureus to anitibiotic was - Ciprofloxacin100%>Septron79%>Amoxycillinclavulanic acid58%> Oxacillin38%> Erythromycin33%>.levofloxacin33%>Linezolid 0%> Staphylococcus aureus do exhibit very sensitve to vancomycin 100 ,high resistance to ciproflaxacin 100%.

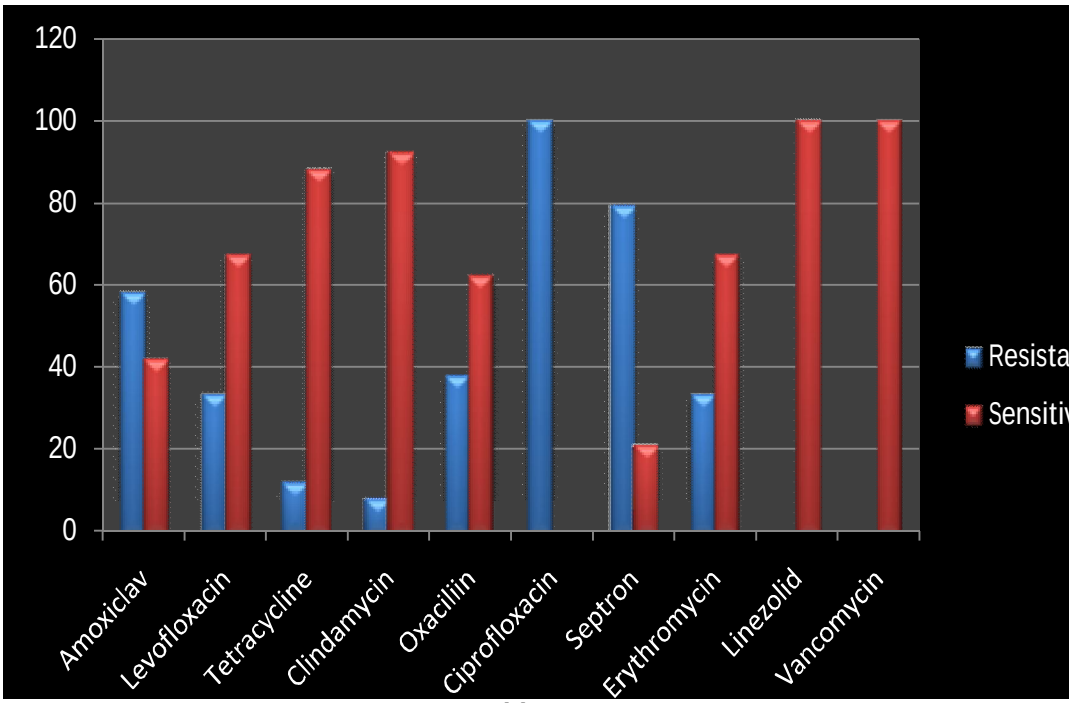

Table 2

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