ABSTRACT

Introduction

Community acquired methicillin-resistant Staphylococcus aureus (CA-MRSA) causing skin and soft tissues infections (SSTIs) is a global problem, but local data are scarce.

Objective

To describe the risk factors, microbiology and genetic profile, association of risk factors with the clinical presentation , antibiotic sensitivity pattern and existence of PVL gene.

Method

A descriptive cross-sectional study was done in the out- patients department of a tertiary care hospital from December 2017 to March 2018. Patients with skin and soft tissue infections were recruited excluding possible hospital acquired infections according to CDC definition of CA-MRSA. Interviewer administered questionnaire was used to gather demographic data and risk factors. Pus samples and wound swabs were taken from 497 patients and inoculated on mannitol salt agar plates and subsequently 101 CA-MRSA were identified by CLSI method. CA-MRSA was tested for mecA, femB, and PVL genes by multiplex PCR.

Results

Out of 188 patients positive for Staphylococcus aureus, 101 were CA-MRSA (53.7%). The commonest clinical presentation was abscess (85.14%, n=86). Majority had infections on lower limbs (34.66%, n=35) followed by chest (19.8%,n=20).

CA-MRSA isolates were 100% sensitive to vancomycin, cotrimoxazole, teicoplanin, doxycycline, linezolid, and rifampicin according to the CLSI method. Resistance to erythromycin was 77.22% (n=78) while clindamycin resistance was 62.37% (n=63) which includes inducible resistance (52.47%, n=53). All three mecA, femB and PVL genes were present in 69.30% (n=70).

Prevalence of risk factors (athletes, army personnel, team sports, hostel inmates, tattoo recipients, pets/animal contacts) were low (23.8%,n=24).There is statistically significant association of CA-MRSA with the presence of at least one risk factor (n=24) (p=0.0364) and age <5 years (p=0.017).There is significant association found between presence of at least one risk factor and the presence of PVL gene (p=0.03) but not with the sensitivity pattern or clinical presentation (p>0.05).

Conclusion and recommendations

Age <5 years and people with at least one risk factor are at more risk of SSTI by CA-MRSA. Presence of PVL gene with risk factors is also significant.

Key wards:

CA-MRSA, skin and soft tissue infections, risk factors