

Prevalence and antibiotic sensitivity of MRSA in wounds at OPD, Teaching Hospital Jaffna

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Staphylococcus aureus is a major pathogen causing various infections, particularly wound infections, and poses significant challenges due to the emergence of Methicillin-Resistant *Staphylococcus aureus* (MRSA). Regular monitoring of resistance patterns is crucial for developing effective treatment strategies. Due to a higher number of patients visiting the dressing room, we have decided to conduct the study at Teaching Hospital Jaffna (THJ). The aim of this study is to determine the prevalence of MRSA and its antibiotic sensitivity patterns in wounds among outpatient department (OPD) at THJ. An institution-based descriptive cross-sectional study was carried out using 275 patients with wounds attending the OPD, THJ during May to July, 2024. Two swabs were collected from each patient for culture and pus cell quantification. Swabs for culture were inoculated in 7% NaCl broth and incubated overnight at 35°C aerobically. Swabs from NaCl broth were subcultured onto Blood agar and Mac-Conkey agar. Characteristic colonies were identified by standard biochemical tests (SOP). The antibacterial susceptibility of MRSA was tested using the disc diffusion method according to the CLSI guidelines, with cefoxitin (30 µg) discs for MRSA detection. In this study, a total of 275 study participants were included. Among them 114 (41.4%) isolates of *Staphylococcus aureus* were obtained, of which 54 (47.4%) were identified MRSA isolates. Community Acquired MRSA (CA-MRSA) was found in 51.9% (28/54) of non-hospitalized patients. MRSA showed high resistance to erythromycin (85.2%) and highly sensitive to co-trimoxazole (70.4%) and linezolid (77.8%). Increased pus cell counts were significantly associated with culture positivity. Nearly half, 54 (47.4%) of the isolates identified as MRSA, predominantly from non-hospitalized individuals, indicating a community-acquired source. The resistance pattern highlights a concerning trend, particularly against commonly used antibiotics such as erythromycin, while suggesting retained efficacy of co-trimoxazole and linezolid.

Keywords: Prevalence, Methicillin Resistant *Staphylococcus aureus*, Antibiotic Sensitivity Test, Infected skin lesion