

Prevalence of Methicillin-Resistant Staphylococcus aureus at a Tertiary Teaching Hospital in Malaysia

ABSTRACT

Methicillin-resistant Staphylococcus aureus (MRSA) is a major nosocomial pathogen that causes severe morbidity, mortality and high medical expenses in many hospitals worldwide. The present study aimed to determine the prevalence of MRSA nosocomial infection, its associated factors, and its antimicrobial susceptibility pattern. This was a retrospective analysis of a database of Multidrug-Resistant Organism (MDRO) that was cultured from patients admitted to Hospital Canselor Tuanku Mukhriz (HCTM) over a period of 2 years (2018-2019). MRSA accounted for 23.6% of total MDRO isolates. The male gender had a higher risk for MRSA acquisition ($p < 0.05$), while the most prevalent setting for MRSA was the orthopaedic ward (47.5%) followed by the medical ward (29.4%). The MRSA strains were significantly isolated from respiratory specimens (55.6%) followed by tissue (50.8%) and blood (27.8%). All MRSA isolates were resistant to penicillin G, oxacillin followed by ciprofloxacin (83.8%) erythromycin (71.5%) and clindamycin (53.5%). MRSA isolates were most susceptible to teicoplanin (99.7%), mupirocin (99.3%), co-trimoxazole (98.4%), rifampicin (97.8%), doxycycline (97.4%), linezolid (95.8%), gentamicin (93.9%) and fusidic acid (86.2%). The trend for MRSA's antibiotic susceptibility in HCTM for the past 2 years (2018 to 2019) remains unchanged. Further research will be required to investigate the predictor of MRSA by clearly differentiating between MRSA infections and colonisations, hospital-acquired MRSA and community-acquired MRSA.