

Prevalence of Nasal Carriage of *Staphylococcus aureus* and its Antimicrobial Resistance Pattern in Patients on Haemodialysis at Haemodialysis Unit, Teaching Hospital Jaffna

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Staphylococcus aureus causes the most prevalent bacterial infections in haemodialysis patients. Compared to healthy controls, patients undergoing chronic haemodialysis have an increased risk of *Staphylococcus aureus* nasal colonization and most of these infections are of endogenous origin. Since the haemodialysis patients are immunocompromised, both methicillin-sensitive *Staphylococcus aureus* (MSSA) and methicillin-resistant *Staphylococcus aureus* (MRSA) are responsible for vascular access site infections. The objective of this study was to determine the prevalence of nasal carriage of *Staphylococcus aureus*, its antimicrobial resistance pattern, and factors associated with *Staphylococcus aureus* nasal carriage in patients on haemodialysis at the Haemodialysis Unit, Teaching Hospital Jaffna. A hospital-based descriptive cross-sectional study was conducted among 79 haemodialysis patients, at Haemodialysis Unit, Teaching Hospital Jaffna. Nasal swabs were collected and inoculated onto blood and MacConkey agar. Gram staining, catalase and coagulase tests were done. An antibiotic sensitivity pattern was tested according to the Clinical and Laboratory Standards Institute (CLSI) method. The $P < .05$ was considered as statistically significant. The prevalence of nasal carriage for *Staphylococcus aureus* was 16.5% (12.7 % MSSA, 3.8 % MRSA) in 79 haemodialysis patients. Among the isolated *Staphylococcus aureus*, 30.8% were resistant to erythromycin, 23.1% to cefoxitin and clindamycin. However, all the isolates were sensitive to ciprofloxacin, gentamicin, teicoplanin and vancomycin. There was a significant association of *Staphylococcus aureus* nasal carriage with previous use of antibiotics, vascular access type, diabetes mellitus, and recent hospitalizations. Screening of *Staphylococcus aureus* nasal carriage at regular intervals and optimized antibiotic prescriptions will protect haemodialysis patients from more severe clinical pictures.

Keywords: haemodialysis, *Staphylococcus aureus*, antimicrobial resistance