Abstract

Staphylococcus aureus nasal carriage among patients on hemodialysis is considered a risk factor for endogenous *S. aureus* vascular-access infection. During the period from May 2004 to January 2005, 99 end stage renal disease patients at Ramallah hospital, Augusta Victoria hospital, and Alia hospital were screened for nasal carriage of *S. aureus* and 41 (41.4%) were colonized by *S. aureus* . For the follow-up of the nasal carriage pattern, periodic nasal swabs were obtained and three *S. aureus* nasal carriage pattern have been distinguished: persistent (17.17%), intermittent (24.24%), and non-carrier (58.6%). Most of the *S. aureus* clinical isolates possessed capsular polysaccharides of multiple serological types, (48.15%) possessed a polysaccharide type 5 capsule, (33.33%) possessed a polysaccharide type 8 capsule, and the remaining (18.52%) had capsular polysaccharide that were not typed by type 5 or type 8 antibodies. MRSA isolates were more likely to have different capsular polysaccharides types: CP5, CP8, and non 5 nor 8 capsular polysaccharides.

The antibiotic susceptibility testing revealed that the *S. aureus* strains fitted in 14 antibiogram types, with the type showing resistance only to Penicilin and Ampicillin prevalent in 48 out of 81 isolates (59.25%).

For better understanding of the immune response in ESRD patients to nasal *S. aureus*, we used enzyme-immuno linked assay to measure the concentration of anti-CP5 and anti-CP8 antibody. The heterogeneity of the antibody level among ESRD patients in both carrier and non-carrier emphasized that there is no correlation between nasal carriage of *S. aureus* and human immune response, and that high antibody concentration is not positively related to *S. aureus* nasal carriage in ESRD patients.