MRSA and MSSA colonization in patients is associated with significant mortality and morbidity in dialysis patients” Price et al (2019).

Abstract:
Patients with end-stage renal disease are susceptible to infection, particularly methicillin-resistant Staphylococcus aureus (MRSA). Although MRSA-related mortality and morbidity have been studied, methicillin-sensitive Staphylococcus aureus (MSSA) has not been investigated to the same degree. Five hundred and seventy-eight chronic hemodialysis patients were followed up retrospectively for 18 months. Routine screening for MRSA and MSSA was instigated. Two hundred and eighty-eight patients (49%) had at least one positive MSSA or MRSA swab. There was no statistical difference in age, Charlson index, diabetes, sex, ethnicity, deprivation index, or the duration of dialysis between the positive and negative groups. There were however, less fistulas and more lines in the positive patients (P = 0.025). Binary logistic regression revealed patients with a body mass index of greater than 30 had a significantly increased risk of Staphylococcus aureus colonization P = 0.044, odds ratio (OR) 1.856 (95% confidence interval 1.016-3.397). Those who entered the study using a temporary line for vascular access also conferred a greater risk of colonization P = 0.029, OR 2.174 (95% CI 1.084-4.359). Patients with positive swabs had significantly more admissions (P = 0.033) and in particular, more infection-related admissions (P = 0.001). They were less likely to survive the follow-up period (P = 0.012) and had substantially more bacteremia (P <0.001). Following multivariable analysis, swab positivity remained an independent risk factor for mortality. MRSA and MSSA colonization in patients is associated with significant mortality and morbidity in dialysis patients. Patients dialyzing with lines are also more likely to colonize compared to those with more permanent forms of vascular access.
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