

To measure the association between colonization pressure from decolonized and non-decolonized neonates and MRSA acquisition to inform use of this strategy for control of endemic MRSA” Pierce et al (2016).

Abstract:

Background: Meticillin-resistant *Staphylococcus aureus* (MRSA) is a leading cause of healthcare-associated infection in the neonatal intensive care unit (NICU). Decolonization may eliminate bacterial reservoirs that drive MRSA transmission.

ReTweet if useful... Neonatal intensive care active surveillance and decolonisation programme <http://ctt.ec/6dAUa+> @ivteam #ivteam

Click To Tweet

Aim: To measure the association between colonization pressure from decolonized and non-decolonized neonates and MRSA acquisition to inform use of this strategy for control of endemic MRSA.

Methods: An eight-year retrospective cohort study was conducted in a level-4 NICU that used active surveillance cultures and decolonization for MRSA control. Weekly colonization pressure exposures were defined as the number of patient-days of concurrent admission with treated (decolonized) and untreated (non-decolonized) MRSA carriers in the preceding seven days. Poisson regression was used to estimate risk of incident MRSA colonization associated with colonization pressure exposures. The population-attributable fraction was calculated to assess the proportion of overall unit MRSA incidence attributable to treated or untreated patients in this setting.

Findings: Every person-day increase in exposure to an untreated MRSA carrier was associated with a 6% increase in MRSA acquisition risk. Risk of acquisition was not influenced by exposure to treated, isolated MRSA carriers (RR: 1.01; 95% CI: 0.98-1.04). In the context of this MRSA control programme, 22% (95% CI: 4.0-37) of MRSA acquisition could be attributed to exposures to untreated MRSA carriers.

Conclusion: Untreated MRSA carriers were an important reservoir for transmission. Decolonized patients on contact isolation posed no detectable transmission threat, supporting the hypothesis that decolonization may reduce patient-to-patient transmission. Non-patient reservoirs may contribute to unit MRSA acquisition and require further investigation.

Reference:

Pierce, R., Lessler, J., Popoola, V.O. and Milstone, A.M. (2016) Meticillin-resistant *Staphylococcus aureus* (MRSA) acquisition risk in an endemic neonatal intensive care unit with an active surveillance culture and decolonization programme. *The Journal of Hospital Infection*. November 3rd. .

DOI: <http://dx.doi.org/10.1016/j.jhin.2016.10.022>

Thank you to our partners for supporting IVTEAM