ICU
MANAGEMENT & PRACTICE

Being An MRSA Carrier Increases Risk Of Infection And Death

MRSA is an antibiotic-resistant bacterium that can cause a variety of serious infections. The bacterium most commonly colonizes the nostrils, although it can be found in other body sites. Most research has focused on people who are newly colonized by the bacteria and has found that they are at substantial risk of subsequent infections. The new study shows that the increased risk of infection continues, with almost a quarter of MRSA-colonized patients developing infections after a year or more has passed since the colonization was confirmed. The infections include pneumonia and bloodstream events, and some infections were linked to deaths.

"Since infection risk remains substantial among long-term carriers of MRSA, these patients should be targeted for interventions to reduce subsequent risk of infection along with patients who newly acquire MRSA," said author Susan Huang, MD, MPH.

The researchers built on their previous work in this area, which showed that one-third of new MRSA carriers in a large tertiary care medical center developed infections within the year following the first detection of colonization. But, as, Dr. Huang points out, "risks beyond the first year of carriage were largely unknown."

In this study, Dr. Huang and coauthor Rupak Datta, MPH, followed 281 patients who had been MRSA-positive for at least one year and some for more than four years. Of these, 23 percent developed an MRSA infection within the year-long duration of this study. Pneumonia was the most common infection. MRSA was identified as a contributor to the deaths of 14 of the patients.

In their paper, the authors suggest that the MRSA infection risk may be more closely tied to a hospitalization event than to the duration of carriage: "We submit that these high risks of MRSA infection among culture-positive prevalent carriers are not only preferentially detected because of hospitalization, but may in fact be incurred because of device related, wound related, and immunologic declines associated with a current illness."

"One explanation for this may be that patients who have surgical wounds or intravenous lines may allow MRSA a route of entry and invasion that would not otherwise exist," added Dr. Huang.

The authors caution that because this study was performed in a large tertiary care medical center, they may have studied a disproportionate number of critically ill patients who could be at a relatively higher risk for infection. The results may not be generalizable to all patient settings.

Dr. Huang is currently an assistant professor in the Division of Infectious Diseases at the University of California Irvine. She was an infectious diseases physician at Brigham and Women's Hospital and an assistant professor at Harvard Medical School at the time this study was conducted.

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