Title

Permalink
https://escholarship.org/uc/item/3cz0r80s

Journal
The New England journal of medicine, 380(22)

ISSN
0028-4793

Authors
Huang, Susan S
McKinnell, James A
Miller, Loren G

Publication Date
2019-05-01

DOI
10.1056/nejmc1903763

Peer reviewed
Postdischarge Infection Risk among MRSA Carriers

TO THE EDITOR: The article by Huang et al. (Feb. 14 issue) reports a lower incidence of Staphylococcus aureus infections among trial participants who were colonized with methicillin-resistant S. aureus (MRSA) if, instead of receiving only postdischarge hygiene education, they also followed a complicated decolonization program twice per month that included baths or showers with chlorhexidine once daily for 5 days (10 days per month), the use of chlorhexidine mouthwash twice daily for 5 days, and the use of mupirocin intranasally twice daily for 5 days. The authors followed patients for approximately 260,000 participant-days in each group of the trial and found a lower risk of MRSA infection in the decolonization group than in the education group, yet they also found a higher risk of gram-negative infection in the decolonization group. Further review of the tables in the Supplementary Appendix (available with the full text of their article at NEJM.org) indicates that the absolute difference in the risk of gram-positive infection was lower by approximately 1.5 infections per 10,000 participant-days or approximately 1 less gram-positive infection every 7.7 years among participants who totally adhered to the decolonization regimen. The effort and cost required for this limited response appear to be disproportionate to the benefit.

Daniel Havlichek, Jr., M.D.
Michigan State University
East Lansing, MI
havliche@msu.edu

No potential conflict of interest relevant to this letter was reported.

DOI: 10.1056/NEJMc1903763

THE AUTHORS REPLY: The perceived value of decolonization depends on several factors. First, patient preference is essential. In our trial, 43% of the patients who were approached agreed to enroll. This level of recruitment into a randomized 1-year trial in which participants were told that the intervention may have no benefit suggests that the prevention of infection is meaningful to persons who are colonized or infected with MRSA. Second, chlorhexidine was a straightforward swap for bathing soap, and the use of mupirocin and chlorhexidine mouthwash took only a few minutes. Most participants had no trouble using the products, and many would not return residual products at trial exit because they believed that the benefit outweighed any inconvenience.

Third, MRSA infections are common and serious. A recent report on S. aureus from the Centers for Disease Control and Prevention reminds us that there are 119,000 bloodstream infections and 20,000 related deaths annually in the United States. In our trial, serious MRSA infection developed in 1 in 10 participants in the control (education) group in the year after discharge; 29% of the cases involved bacteremia, and 85% led to hospitalization. Overall, the number needed to treat is approximately 30 patients to prevent an infection or hospitalization. If physicians can identify patients who will adhere to the regimen, then the number needed to treat is 12. The relatively low cost of the intervention products, which are generic and widely available, the relative simplicity and acceptability of the regimen, and the personal and health care costs of MRSA disease and associated hospitalization suggest that treatment is worth considering.

Susan S. Huang, M.D., M.P.H.
University of California Irvine School of Medicine
Irvine, CA
sshuang@uci.edu
James A. McKinnell, M.D.
Loren G. Miller, M.D., M.P.H.
Harbor–UCLA Medical Center
Torrance, CA

Since publication of their article, the authors report no further potential conflict of interest.

DOI: 10.1056/NEJMc1903763

THE JOURNAL’S WEB AND EMAIL ADDRESSES
To submit a letter to the Editor: authors.NEJM.org
For information about the status of a submitted manuscript: authors.NEJM.org
To submit a meeting notice: meetingnotices@NEJM.org
The Journal’s web pages: NEJM.org