ORAL ABSTRACTS

1336. A Randomized Controlled Trial of the Effect of Total Household Decolonization on Termination of Colonization with Methicillin-Resistant *Staphylococcus aureus*

Valerie C. Cluzet, MD[1]; Jeffrey S. Gerber, MD, PhD[2]; Joshua Metlay, MD, PhD[3]; Irving Nachamkin, DrPH, MPH[4]; Theoklis Zaoutis, MD, MSCE[5]; Kathleen G. Julian, MD[6]; Darren R. Linkin, MD, MSCE[7]; Susan E. Coffin, MD, MPH[8]; David J. Margolis, MD, PhD[1]; Judd E. Hollander, MD[1]; Warren Bilker, PhD[9]; Xiaoyan Han, MS[1,10]; Rakesh D. Mistry, MD, MS[11]; Laurence J. Gavin, MD[1]; Pam Tolomeo, MPH[1]; Jacqueleen Wise,[1]; Mary K. Wheeler, MBE[10]; Baofeng Hu,[1]; Neil O. Fishman, MD[1]; David Royer, PhD[12]; Ebbing Lautenbach, MD, MPH, MSCE[7]; The CDC Prevention Epicenters Program; [1]University of Pennsylvania Perelman School of Medicine, Philadelphia, PA; [2]Department of Pediatrics, Division of Infectious Diseases, The Children's Hospital of Philadelphia, Philadelphia, PA; [3]Medicine, Harvard Medical School, Boston, MA; [4]Department of Pathology and Laboratory Medicine, University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA; [5]Division of Infectious Diseases, Center for Pediatric Clinical Effectiveness, the Children's Hospital of Philadelphia, Philadelphia, PA, The Children's Hospital of Philadelphia, Philadelphia, PA; [6]Penn State Hershey Medical Center, Hershey, PA; [7]University of Pennsylvania School of Medicine, Philadelphia, PA; [8]Division of Infectious Diseases, The Children's Hospital of Philadelphia, Philadelphia, PA; [9]Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA; [10]Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA; [11]Children's Hospital Colorado, Aurora, CO; [12]Lincoln University, Lincoln University, PA

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Background. Colonization with methicillin-resistant *Staphylococcus aureus* (MRSA) is associated with development of recurrent skin and soft tissue infections (SSTI). Several decolonization strategies have been used to try to decrease the burden of MRSA colonization, but these have not been shown to decrease recurrent SSTI, perhaps related to transmission of MRSA colonization between household members.

Methods. We conducted a three-arm non-blinded randomized controlled trial from November 1, 2011 to May 31, 2013 at five academic medical centers. Adults and children presenting to ambulatory care settings with acute community-onset MRSA SSTI (i.e. index cases), along with their household members, were eligible. Enrolled households were randomized to one of three intervention groups: 1) education on routine hygiene measures; 2) education plus unsupervised decolonization with intra-nasal mupirocin ointment and chlorhexidine gluconate body wash; 3) education plus supervised decolonization (i.e. daily phone call or text message reminders). The primary endpoint was time to termination of colonization in the index case. The decolonization arms were combined in the primary analysis. Intention to treat and per-protocol analyses were performed.

Results. One hundred sixty-eight households were enrolled. Fifty-seven households were randomized to education alone, 54 to decolonization without supervision and 57 to supervised decolonization. Intention-to-treat analysis showed no significant difference in time to termination of colonization between the education-only and decolonization groups (log-rank test p-value = 0.57). In per-protocol analysis, at least 50% compliance with the decolonization protocol was associated with more rapid clearance of colonization as compared to the group that included those with less than 50% compliance to decolonization or who received education alone ($p = 0.02$).

Conclusion. Households that were at least 50% compliant with an intra-nasal mupirocin and chlorhexidine body wash decolonization protocol achieved more rapid clearance of MRSA colonization. Further studies need to determine the threshold of compliance necessary to affect clinical outcomes and potential ways to improve compliance.

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