

Nasal application of 2% mupirocin and bleach baths were found to be more effective at eradicating *Staphylococcus aureus* colonization than other interventions, according to the findings of a randomized trial.

Bernard C. Camins, MD, from the Division of Infectious Diseases at the Washington University School of Medicine in St. Louis, Missouri, reported the findings here at the Fifth Decennial International Conference on Healthcare-Associated Infections 2010.

According to the researchers, a variety of strategies have been used to decolonize patients with varying results, and there are "no published data on controlled trials evaluating the optimal methods for decolonization and their efficacy in preventing recurrent *S aureus* infections."

Dr. Camins and colleagues evaluated the effectiveness of decolonization methods in the eradication of *S aureus* carriage in 193 children and 107 adults presenting with community-acquired *S aureus* skin and soft tissue infections.

In addition to education on personal hygiene, all eligible patients were randomized to 1 of 4 groups: no intervention (control); application of 2% mupirocin ointment to both anterior nares twice daily for 5 days; application of 2% mupirocin ointment intranasally plus daily showers with 4% chlorhexidine solution for 5 days; and application of 2% mupirocin ointment intranasally plus daily 30-minute soaks in dilute bleach water for 5 days.

Of the patients, 68% were colonized with methicillin-resistant *S aureus* (MRSA) and 32% were colonized with methicillin-sensitive *S aureus* alone. All interventions were effective 1 month postintervention at eradicating *S aureus* carriage, compared with the control group.

At 4 months postintervention, only the mupirocin plus bleach bath was found to be effective at eradicating *S aureus* colonization (69% vs 48%; relative risk, 1.26; 95% confidence interval, 1.05 - 2.01; $P = .02$). All treatment groups were well tolerated, with dry skin being the most common adverse effect.

"This current study is a pilot feasibility study for a larger trial to determine whether decolonization would prevent future episodes of skin and soft tissue infection," Dr. Camins told *Medscape Infectious Diseases*.

"Before we completed the trial, decolonization methods were being used clinically without any scientific data supporting their use," he said. "Now that we have completed our trial, at least clinicians can feel comfortable recommending the intranasal application of mupirocin plus bleach baths in patients with recurrent community-acquired MRSA skin/soft tissue infections," he said.

Dr. Camins added that they were surprised that the mupirocin plus chlorhexidine intervention did not lead to decolonization, compared with the control group, at 4 months.

According to Keith M. Ramsey, MD, from the Brody School of Medicine at East Carolina University in Greenville, North Carolina, who attended the meeting, the addition of the diluted 30-minute bleach bath to nasal mupirocin treatments, resulting in two thirds of the *S aureus* carriers remaining free of carriage for up to 4 months, is a new finding, and should be explored in larger studies.

Dr. Ramsey told *Medscape Infectious Diseases* that "it would be interesting to follow the subjects in the treatment arms to determine if any of the decolonization regimens result in differences in subsequent or recurrent clinical disease with *S aureus* or MRSA."

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