

Changing Pattern of Community-Acquired Skin and Soft-Tissue Infection with Antibiotic-Resistant *Staphylococcus aureus*

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The full report is titled “Emergence of Community-Acquired Methicillin-Resistant *Staphylococcus aureus* USA 300 Clone as the Predominant Cause of Skin and Soft-Tissue Infections.” It is in the 7 March 2006 issue of *Annals of Internal Medicine* (volume 144, pages 309-317). The authors are M.D. King, B.J. Humphrey, Y.F. Wang, E.V. Kourbatova, S.M. Ray, and H.M. Blumberg.

What is the problem and what is known about it so far?

Staphylococcus aureus (*S. aureus*) is a common type of bacteria that often lives on the surface of the skin of healthy people without causing infection. Sometimes these bacteria penetrate the skin and cause infection of the skin or the tissues underneath (called skin and soft-tissue infections). As a result of overusing antibiotics, certain strains of *S. aureus* have developed resistance to important antibiotics, such as methicillin, that have been used to treat these types of infections. In the past, doctors have found antibiotic-resistant or methicillin-resistant *S. aureus* (MRSA) mostly in patients who became infected while they were in a hospital or another health care facility, as opposed to methicillin-sensitive *S. aureus* (MSSA), which was mostly found in infections that had started outside the hospital setting. Treatment of MRSA requires special types of antibiotics, some of which must be given through veins when initially treating serious or life-threatening infections. Recently, doctors have been finding MRSA with increasing frequency outside the hospital in the general community (community-acquired MRSA). Initially this seemed to occur most often in particular groups of people, such as inmates of correctional facilities, homosexual men, and members of sports teams. Doctors need to know how the pattern of infection with MRSA is changing because treatment practices may need to be changed.

Why did the researchers do this particular study?

To determine the proportion and clinical characteristics of skin and soft-tissue infections in the general community that were caused by MRSA and whether the types of people being infected by MRSA were changing.

Who was studied?

384 patients cared for at Grady Memorial Hospital in Atlanta, Georgia, and its outpatient clinics who had acquired *S. aureus* skin or soft-tissue infections outside the hospital.

How was the study done?

The authors collected information from the Grady Health System microbiology laboratory and from medical records on patients with skin and soft-tissue infections due to *S. aureus*. They then separated the results according to whether the bacteria were MRSA or MSSA and did further analysis on the specific genetic types of MRSA and whether they were sensitive or resistant to different antibiotics.

What did the researchers find?

A total of 72% of all the *S. aureus* infections found in these community-acquired infections were due to MRSA. Personal factors that were more likely to be associated with MRSA infection included being black, being female, and having been hospitalized within the past year.

What were the limitations of the study?

The findings may not be characteristic of communities other than Atlanta, Georgia.

What are the implications of the study?

Methicillin-resistant *S. aureus* is becoming more common as a cause of skin and soft-tissue infection in the community setting, and this will require adjustment in antibiotic coverage for serious MRSA infections.

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