Drug-Resistant Staph: Growing Concern Among People With HIV

November 4, 2008 By Tim Horn

Skin infections caused by drug-resistant staph are more common and more likely to recur in people living with HIV, according to three new studies reported at the 2008 joint meeting of the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) and the Infectious Disease Society of America (IDSA) last week in Washington, DC. The new data also suggest that the number of new infections caused by methicillin-resistant Staphylococcus aureus (MRSA) has increased in recent years and that it is most likely to involve the buttocks and genital area in HIV-positive people.

The majority of MRSA infections occur in hospitals or other health care settings. A growing concern, however, is an upswing in the number of community-acquired MRSA (CA-MRSA) infections. Like hospital-acquired MRSA (HA-MRSA), CA-MRSA is more difficult to treat than typical staph infections. CA-MRSA is, however, potentially more dangerous because it contains a toxin that attacks white blood cells and can lead to serious skin and soft tissue infections and a serious form of pneumonia.

HIV infection has been said to be a risk factor for CA-MRSA, notably skin and soft tissue infections. Although CA-MRSA can be treated, certain antibiotics must be used cautiously in people living with HIV because drug interactions and allergic reactions are common. There also appears to be a higher CA-MRSA recurrence rate among HIV-positive people.

At ICAAC/IDSA, Kyle Popovich, MD, and his colleagues associated with the Cook County Healthcare and Hospital System—which includes care facilities throughout the greater Chicago area—reported that the risk of CA-MRSA skin and soft tissue infections is about six times higher among HIV-infected patients compared with HIV-uninfected patients. There were 952 cases of CA-MRSA per 100,000 HIV-positive people in the county, compared with 156 per 100,000 HIV-negative people in the county, resulting in a "relative risk" of 6.1.

In the Veterans Aging Cohort Study (VACS), involving more than 3,000 HIV-positive patients and age- and race-matched HIV-negative controls, Christopher Graber, MD, MPH, and his colleagues found a threefold higher risk of CA-MRSA in people living with HIV. Of the 2,652 HIV-positive patients included in the study, 122 (4.6 percent) required treatment for CA-MRSA between 2000 and 2007. Of the 2,728 HIV-negative patients evaluated, 43 (1.5 percent) were diagnosed with CA-MRSA at some point during this seven-year period.

Dr. Graber's group also reported that HIV-positive patients were much more likely to have a CA-

MRSA-related infection of the buttocks or genital area (notably the perineum) than HIV-negative individuals. Conversely, HIV-negative individuals were much more likely to develop skin and soft-tissue infections caused by CA-MRSA in the foot area.

Cases of CA-MRSA among HIV-positive people also appear to be on the rise. According to Dr. Popovich's presentation, there were 373 reports of CA-MRSA among HIV-positive patients between 2000 and 2003. Between 2004 and 2007, however, there were 1,426 cases reported—a fourfold increase in the number of new CA-MRSA cases.

A second study reported by Popovich, focusing specifically on HIV-positive patients hospitalized at Stroger Hospital in Chicago, found an increase in the number of CA-MRSA among hospitalized patients (MRSA acquired before being admitted but diagnosed while in the hospital). Between 2000 and 2003, 190 HIV-positive patients admitted to Stroger had CA-MRSA skin and soft tissue infections. Between 2004 and 2007, the rate increased fourfold, to 779 hospitalized HIV-positive patients with active CA-MRSA infections.

Among the Stroger-treated patients, CA-MRSA infection was most likely to be documented in those coming from "high risk" residences, such as substance abuse centers, shelters or subsidized housing, as well as those residing in "high risk" zip codes—defined by the researchers as localities in which there are high incarceration rates.

Graber's presentation noted that there appears to be equal susceptibility of CA-MRSA to antibiotics among HIV-positive and HIV-negative individuals. He said that TMP/SMX (Bactrim) and rifampin (Rifadin) appear to be the most effective, but that these options can be potentially problematic in people living with HIV; many HIV-positive people are allergic to Bactrim, and many are taking ARVs that must be used cautiously with Rifadin.

Graber also noted that recurrences of CA-MRSA skin and soft tissue infections are more likely to occur in HIV-positive patients. In his group's VACS analysis, there were 21 CA-MRSA recurrences among the HIV-positive patients, compared with two recurrences among the HIV-negative patients. These findings, Graber pointed out, echo those of at least one other recent study.

For more information regarding MRSA and HIV, check out Tim Horn's video interview with Dr. Nancy Crum-Cianflone at the 2008 ICAAC/IDSA meeting in Washington, DC (click here).

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