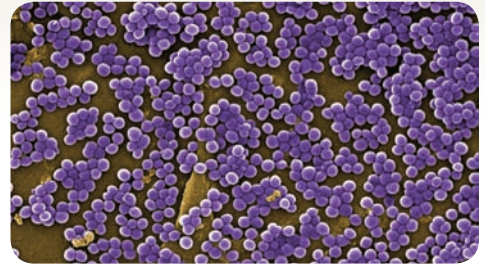


MRSA screening may benefit H1N1 patients



By Keith M. Ramsey, MD

In the midst of the H1N1 pandemic, do not forget about methicillin-resistant *Staphylococcus aureus* (MRSA)! As we enter 2010 and look back at 2009, it was an busy year for those in infectious diseases and microbiology with the arrival of an unexpected visitor, the pandemic influenza A/H1N1.

The Centers for Disease Control and Prevention (CDC) recently estimated that influenza A/H1N1 infected one in six people in the United States during 2009, with estimates of nearly 10,000 deaths.¹ The CDC estimates there were between 34 million and 67 million cases of influenza A/H1N1 in the United States between April and November 2009, and between 154,000 and 303,000 H1N1-related hospitalizations.¹ As a result, a tremendous amount of resources in laboratories and healthcare facilities, as well as state and federal government agencies, was directed toward implementing the most rapid and accurate methods of testing patients for influenza A/H1N1 and the use of antiviral medications.

Just as with the influenza pandemic of 1918 and more recently in the early 2000s,² all of the respiratory-related deaths, have not been due to primary influenza A/H1N1, as secondary pneumonias due to *Streptococcus pneumoniae*, *Staphylococcus aureus*, and MRSA have been described.³ These secondary bacterial pneumonias, either acquired in the community or in a healthcare facility, including ventilator-associated pneumonia, or VAP, continue to be a challenge for the medical community, both in recognition of their potential presence and in determination of appropriate treatment decisions for the patients with acute respiratory disease suggestive of influenza A/H1N1 who do not respond to antiviral treatments.

Prior to the influenza A/H1N1 pandemic of 2009, the healthcare infection surveillance system of the CDC, the National Health and Safety Network, or NHSN, reported that MRSA accounted for 56.2% of all device-related infections and 49.2% of all surgical-site infections, respectively, due to *S aureus* detected among their member hospitals for 2006 and 2007.⁴ Thus, as we await reports of healthcare-associated infections (HAIs) that have occurred during the H1N1 pandemic, clinicians should be vigilant about the possibility of MRSA as a complication of hospitalized patients, including those with influenza A/H1N1.

In a landmark study in the United States by Robicsek and colleagues, universal admission testing of and eradication therapy for MRSA carriers decreased the subsequent numbers of HAIs due to MRSA.⁵ Subsequently, additional healthcare facilities, such as the Pitt County Memorial Hospital, the teaching hospital of The Brody School of Medicine, implemented programs of "Search and Destroy," with similar positive decreases in healthcare associated-MRSA (HA-MRSA) infections.⁶

Earlier studies of the use of rapid, PCR-based MRSA testing had suggested a 75% correlation of positive nasal MRSA result with clinical respiratory disease due to MRSA among hospitalized patients.⁷ Thus, as we are in middle of the usual influenza season, testing all admissions for MRSA via nasal swabs and rapid molecular testing may be of potential benefit in detecting those carriers of MRSA who may or may not have concurrent respiratory disease due to MRSA.

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In summary, MRSA has been one of the leading, if not the leading, bacterial agent of HAIs during the past decade. If the Infection Control Risk Assessment at your hospital identifies HA-MRSA infections as a top priority, there are increasing numbers of rapid, commercial assays available to test and detect carriers of MRSA within minutes to hours. Therefore, do not forget about the detection and prevention of HAIs in this time of influenza A/H1N1, and continue to be vigilant about the potential appearance of a third wave of influenza A/H1N1 in communities across the United States. □

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