

VANCOMYCIN-RESISTANT AND VANCOMYCIN-INTERMEDIATE *STAPHYLOCOCCUS AUREUS* (VRSA AND VISA) FACT SHEET

Overview

Staphylococcus aureus, often simply referred to simply as “staph,” are bacteria commonly found on the skin and in the noses of healthy people. Approximately 30 percent of people are colonized (bacteria are present, but not causing an infection) in the nose.

Occasionally, staph does cause infection. Staph bacteria are one of the most common causes of skin infections in the United States. Most of these infections are minor (such as pimples, boils and other infectious skin conditions), and most can be treated without antibiotics. However, staph bacteria can also cause serious and sometimes fatal infections. These serious infections can include:

- bloodstream infection, also called bacteremia or sepsis, when bacteria spreads to the bloodstream, usually as a result of using catheters or having surgery;
- infection in the lungs (pneumonia) which mostly occurs in people with lung disease including those on mechanical ventilators;
- infection of the heart valves (endocarditis) which can lead to heart failure; and
- bone infection (osteomyelitis), which can be caused by staph bacteria traveling in the bloodstream or put there by direct contact following trauma (puncture wound of foot or intravenous [IV] drug abuse).

Sometimes bacteria change so that certain antibiotics don't kill them anymore. This is called “resistant.” In the past 50 years, staph bacteria have become more resistant to various antibiotics. Vancomycin-resistant *Staphylococcus aureus*, or VRSA, are staph bacteria that are resistant to an antibiotic called vancomycin. Vancomycin-intermediate *Staphylococcus aureus*, or VISA, are staph bacteria that have some resistance to vancomycin but not as much as VRSA bacteria. VRSA and VISA are difficult to treat because they no longer respond to vancomycin.

Signs and Symptoms

The signs and symptoms of VRSA/VISA depend on the location of infection. General signs of infection might include:

- fever;
- chills;
- redness;
- swelling;
- pain; and
- drainage or pus from a wound or surgical site.

Causes and Transmission

People could get VRSA/VISA when the bacteria are already present in their bodies, later changing so that the bacteria become resistant. VRSA/VISA could also be spread indirectly via the hands of health care providers after contact with other people with VRSA/VISA or with contaminated environmental surfaces. VRSA/VISA is not spread through the air by coughing or sneezing.

Risk Factors

Persons who develop VRSA/VISA infections may have chronic health conditions (such as diabetes and kidney disease) that make them at greater risk of infection. You may also be at higher risk of VRSA/VISA infection if you have had previous infections with methicillin-resistant *Staphylococcus aureus* (MRSA) or vancomycin-resistant enterococci (VRE), a history of tubes going into your body (such as intravenous catheters), recent hospitalization, or recent exposure to vancomycin or other antibiotics.

Complications

VRSA/VISA infection can be treated with antibiotics other than vancomycin. If the patient has an infection related to a central intravenous (IV) catheter, that catheter may need to be removed.

Tests and Diagnosis

The only way to identify a VRSA/VISA infection is to collect and test appropriate specimens in the laboratory. For example, a doctor might collect a blood sample for testing if he or she thinks a person has a blood infection. The laboratory can also test to determine which antibiotic will be the most effective to treat the illness. This is how they will know that the bacteria is resistant to vancomycin.

Treatments

Most VRSA/VISA infections can be treated with antibiotics other than vancomycin. Laboratory testing can determine which antibiotics are effective for treatment.

Prevention

The best way to prevent the spread of VRSA/VISA, and all infections, is to clean your hands often. This includes washing hands with soap and water or using an alcohol-based hand rub. Health care workers should follow specific infection control precautions. These might include wearing gowns and gloves when entering a room of patients with VRSA/VISA infection.

Patients and health care workers should clean their hands often, including:

- before preparing or eating food;
- before touching their eyes, nose or mouth;
- after using the restroom;
- after blowing their nose, coughing or sneezing;
- before and after changing wound dressings or bandages; and
- after touching hospital surfaces such as bed rails, bedside tables, doorknobs, remote controls or the phone.

If you visit a friend or family member infected with VRSA/VISA while they are hospitalized, follow the hospital's recommended precautions.

Disease Patterns

VRSA and VISA are very rare events and are reportable diseases in Pennsylvania. As of May 2015, fourteen VRSA infections have been reported in patients from the United States, one in Pennsylvania. Although there is no evidence that VRSA was spread from person to person in these fourteen cases, it is important for strict prevention measures to continue if VRSA/VISA are identified in order to prevent spread to other people.

Additional Information

Centers for Disease Control and Prevention:
http://www.cdc.gov/HAI/organisms/visa_vrsa/visa_vrsa.html.

This fact sheet provides general information. Please contact your physician for specific clinical information.

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