

MRSA

Introduction

MRSA stands for methicillin-resistant *Staphylococcus aureus*. *S.aureus* is a common germ found living harmlessly on the skin and within the nostrils. *S.aureus* located on the skin can occasionally cause minor skin infections such as boils, abscesses, and infection of cuts. These minor skin infections can be treated with antibiotics. More severe symptoms can also be caused by *S.aureus* such as wound infections after surgery.

MRSA is a type of *S.aureus* that has become resistant to the antibiotic methicillin and some other antibiotics used to treat infections. This means that these antibiotics are unable to kill the MRSA bacteria. There are therefore only a limited number of antibiotics which are able to treat infections due to MRSA.

MRSA does not pose a risk to healthy individuals within the community. Healthy individuals who carry MRSA within their nostrils or on the surface of the skin are mostly unaware as they do not suffer from any of the symptoms. These individuals are said to be 'colonised' with MRSA. MRSA causes problems when they get a chance to get into the body for example through a cut in the skin.

Interesting Fact: **Did you know?**

Staphylococcus aureus is found in about a third of healthy people.

It is known to reside in areas of the body that are moist such as the armpits, groins and nose. It can however also be found on other body parts such as the hands.

Interesting Fact: **Did you know?**

Some people carry MRSA for a little while (hours, days) whilst some can carry it for their whole lives being unaware as they do not have any symptoms.

How the infection is spread

MRSA is spread by direct physical contact with an individual infected with MRSA or through an individual colonised with MRSA. However MRSA can be spread through contact with hard surfaces such as wash basins and materials such as towels and linen used by an individual infected or colonised with MRSA.

Infection from MRSA may occur if the bacteria gain direct entry into the body i.e. via a cut or break in the skin.

Symptoms

Symptoms of MRSA depend upon the area of the body that is infected. They include:

- Skin infections (boils, abscesses, styes, carbuncles, cellulitis, impetigo)
- Severe infections (septicaemia, septic shock, osteomyelitis, abscesses, meningitis. Pneumonia, endocarditis)

Diagnosis

To check whether someone is colonised with MRSA, swabs are taken from the nose and skin to check if bacteria is present. These tests usually take about 2 working days. Appropriate treatment is given if MRSA is detected. These tests will also indicate which antibiotics can be used to treat infection if identified.

Treatment

MRSA may be treated with skin cleansing lotions, nasal ointment and shampoo to reduce the amount of MRSA carried on the skin. This is frequently referred to as 'colonisation reduction regime'.

At Lewisham Healthcare NHS Trust, if you are admitted, we frequently continue the skin cleansing lotion for the duration of your stay in the hospital.

Antibiotics will be prescribed if infection is suspected.

Prevention and protection

MRSA can survive in dust on various surfaces for long periods of time. Therefore surfaces and objects must be cleaned regularly and thoroughly.

Within the hospital setting, people who have MRSA are put into isolation, which means that they will be put into a room by themselves away from others to prevent the spread of infection to other patients.

Patients admitted to Lewisham Healthcare NHS Trust are screened for MRSA. If their test is positive they are prescribed appropriate treatment.

There are certain practices which can help reduce the spread of MRSA. These include:

- Maintenance of good hand hygiene. Wash hands frequently with soap and water to reduce the spread of the MRSA from one part of the body to another or to another person.
- Use alcohol gel or hand rubs especially before and after touching patients
- Teach and encourage children to wash their hands thoroughly.
- Cleaning of hard surfaces (e.g. handles) regularly using household cleaning products.

Panton-Valentine Leukocidin (PVL) producing MRSA

Introduction

Panton-Valentine Leukocidin (PVL) is a toxic substance produced by some strains of MRSA and is associated with an increased ability to cause severe infection.

How the infection is spread and Symptoms

Interesting Fact: Did you know?

PVL is named after the two doctors (Panton and Valentine) who first identified the toxin which has the ability to kill white blood cells known as leukocytes.

If PVL-MRSA enters the body i.e. through a cut or open wound it can cause harm, including recurrent boils or skin abscesses. It is occasionally associated with more serious infections of the lungs, blood, joints and bones.

PVL-MRSA can be spread by:

- Skin-to-skin contact with someone who is already infected, for example close family or during contact sports OR
- Contact with an item or surface that has PVL-MRSA on it from someone else, for example shared gym equipment, shared razors, shared towels.

Diagnosis

- *Clinical specimens.* Depending on the part of the body that is infected, blood, wound, urine or other specimens may be sent to the laboratory to detect MRSA and other organisms. Once MRSA is detected, it is further tested for the presence of the PVL by sending the MRSA isolate to a reference laboratory.

Treatment

The boils and abscesses are dealt with by making a small incision and draining them, whilst some other infections could be treated with antibiotics. The PVL-MRSAs carried on your skin may be eliminated with a five day skin treatment (washes, creams and shampoos). This is to ensure reduction of spread and repeated infections.

Protection and prevention

There are numerous ways to prevent spread of PVL-MRSA. These include:

- Keeping infected areas of body covered with clean and dry dressings/plasters
- Not to touch/poke/squeeze infected areas
- Good hand hygiene

Useful links:

For further information on MRSA please visit the links below:

[NHS CHOICES / NHS direct](#)

[HPA](#)

[MRSA ACTION UK](#)

[PATIENT UK](#)

Acknowledgements:

1. HPA (2008). Guidance on the diagnosis and management of PVL-associated Staphylococcus aureus infections (PVL-SA) in England: http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1218699411960
2. NHS Choices website MRSA - <http://www.nhs.uk/conditions/MRSA/Pages/Introduction.aspx>
3. OLD UHL website