Necrotizing fasciitis (flesh-eating disease)

What is necrotizing fasciitis?

Necrotizing fasciitis (*neck*-roe-tie-zing fa-shee-*eye*-tis) is more commonly known as "flesh-eating disease". It is a very severe bacterial infection that spreads quickly through the tissue (flesh) surrounding the muscles. In some cases death can occur within 12 to 24 hours. Necrotizing fasciitis kills about 1 in 4 people infected with it.

Necrotizing fasciitis may start from an infection in a minor cut or bruise. It may follow a chickenpox infection. Sometimes there is no obvious skin wound or injury.

What are the symptoms of the disease?

Most often there is sudden onset of pain and swelling with redness at the site of a wound. Fever may also occur. The pain is often far greater than you would expect from the wound or injury. The pain can sometimes occur at a distance from the wound. It can spread quickly up the affected arm, leg or other body part. This kind of infection can cause gangrene – the death of tissue in a part of the body.

What causes necrotizing fasciitis?

Necrotizing fasciitis is caused by a number of different bacteria. One of these is group A streptococcus. These bacteria are found on the skin or in the nose and throat of healthy people. Many people carry these bacteria but don't get sick. These bacteria can also cause strep throat, scarlet fever, skin infections and rheumatic fever. It is not fully understood why group A streptococcus bacteria sometimes cause necrotizing fasciitis. However, these bacteria make toxins that destroy body tissue directly. The bacteria also cause the body's immune system to destroy its own tissue while fighting the infection.

For more information on group A streptococcus, see HealthLinkBC File #106 Group A streptococcal infections.

How is it spread?

Group A streptococcus bacteria spread by contact with saliva or mucus from the mouth, nose or throat of an infected person. The infected person may or may not have symptoms. When an infected person coughs or sneezes, the bacteria spread through droplets in the air. You can become infected when you breathe in these droplets, touch objects contaminated with them, and then touch your eyes or mucous membranes or put your hands in your mouth. The bacteria can also spread through close personal contact. For example, kissing or sharing drinking cups, forks, spoons or cigarettes.

Those at highest risk of getting it from an infected person are:

- People living in the same household as the infected person
- People who sleep in the same room as the infected person
- People who have direct contact with the infected person's mouth or nose secretions.

How can necrotizing fasciitis be prevented?

There is no vaccine to prevent group A streptococcal infections. Antibiotics are recommended if you have close contact with someone who has necrotizing fasciitis caused by group A streptococcus (for example, if you

live in the same household). Since this severe form of streptococcal infection can progress so rapidly, the best approach is to get medical attention as soon as symptoms occur. Remember, an important clue to this disease is very severe pain at the site of a wound.

Always take good care of minor cuts to reduce the chance of the tissues under the skin getting infected. If you have a small cut or wound, wash it well in warm soapy water, and keep it clean and dry with a bandage.

How is it treated?

Antibiotics are an important part of the treatment for necrotizing fasciitis. However, antibiotics on their own are not usually enough. This is because necrotizing fasciitis cuts off the blood supply to body tissue, and the antibiotics must be carried by blood to the infected site to work. Surgery, combined with antibiotics, is the usual treatment.

What are my chances of getting necrotizing fasciitis?

Your chances of getting necrotizing fasciitis caused by group A streptococcus are very low. In B.C., about 4 people out of 1 million get it every year. Even if you have close contact with a person with necrotizing fasciitis for a long time, the chance of getting it is very low.

Some people are known to have a higher risk of getting the disease. Injection drug use is the biggest risk factor. Other risk factors include:

- Skin wounds (burn, trauma, surgery)

- A weakened immune system due to disease or medical treatment

- Chronic diseases such as heart, lung or liver disease, complications from alcoholism or diabetes

- Recent close contact with a person who had necrotizing fasciitis caused by group A streptococcus

- Chickenpox

A recent chickenpox infection can greatly increase the risk of getting necrotizing fasciitis. Although chickenpox does not account for very many cases, streptococcus skin infections can be a complication of chickenpox. Everyone who has not had chickenpox or the chickenpox (varicella) vaccine should get the vaccine. For information about the chickenpox vaccine, see HealthLinkBC File #44b Chickenpox (varicella) vaccine.

BC Centre for Disease Control
Provincial Health Services Authority

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