Communicable Diseases Series



Necrotising Fasciitis

Centre for Health Protection

Department of Health

Causative agent

Necrotising fasciitis (NF; commonly known as "flesh-eating infection") can be caused by different types of bacteria including Group A *Streptococcus, Vibrio vulnificus, Klebsiella, Clostridium, Escherichia coli, Staphylococcus aureus* and *Aeromonas hydrophila*. Group A *Streptococcus* is considered the most common cause of NF.

Clinical features

NF is a serious bacterial infection of the soft tissue and fascia (a sheet or band of fibrous connective tissue separating or binding muscles and organs together). Most patients present with signs of inflammation such as redness, swelling, and pain at the affected site. There may also be ulcers, blisters or black spots. The patient may experience intense and severe pain which is out of proportion to the visible skin changes. Other symptoms can include fever, chills, fatigue, diarrhoea, vomiting, or pus from the infected area. NF can lead to rapid tissue destruction and potentially life-threatening complications.

Mode of transmission

The bacteria that cause NF most commonly enter the body through a wound in the skin, such as a cut, scrape, burn, insect bite, or puncture/ surgical wound. However, blunt trauma may also cause necrotizing fasciitis. Besides, NF caused by *Vibrio vulnificus* can also be acquired through eating raw or undercooked shellfish, particularly oysters, harvested from warm water, or exposure to seawater through an existing open wound.

NF rarely spreads from person to person.



High risk groups

All people are susceptible to infection with NF. People who frequently handle or have direct contact with raw seafood have a higher risk of acquiring NF associated with *Vibrio vulnificus* infection. People with underlying medical conditions that weaken their immune system, such as diabetes mellitus, cancer, kidney diseases and liver cirrhosis, are also at increased risk of acquiring the infection.

Incubation period

The incubation period is usually 12 to 72 hours. In some cases, symptoms can start within hours after an injury.

Management

NF is a severe illness that requires hospitalisation, and some patients may require intensive care. While prompt antibiotic therapy is crucial, surgical interventions, such as removal of dead tissue or amputation of the affected limb, are often required to stop the infection from spreading. The case fatality rate of NF can be up to 20%.

Prevention

To prevent the infection, members of the public should maintain good personal hygiene and practise good wound care; wear protective gloves when handling raw shellfish or other seafood.



Maintain good personal hygiene

- Perform hand hygiene frequently. Wash hands with liquid soap and water, and rub for at least 20 seconds; then rinse with water and dry with a disposable paper towel or hand dryer. If hand washing facilities are not available, or when hands are not visibly soiled, hand hygiene with 70 to 80% alcohol-based handrub may be considered.

Proper wound management

- Clean wounds immediately and cover properly with waterproof adhesive dressings until healed.



- Prompt first-aid care of even minor, non-infected wounds.
- Perform hand hygiene before and after touching wounds.
- Avoid going to swimming pools, other water facilities or natural bodies of water, e.g. rivers, lakes and oceans, if you have an open wound.
- Consult doctor promptly if symptoms of infection develop, such as increasing redness, swelling and pain on the skin.

For details of NF caused by *Vibrio vulnificus*, please refer to the fact sheet of *Vibrio vulnificus* infection. (www.chp.gov.hk/en/healthtopics/content/24/3780.html)

Centre for Health Protection Website www.chp.gov.hk

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