

Anthrax in drug users: Q&As

Q1. What is anthrax?

Anthrax is a very rare but serious bacterial infection caused by the organism *Bacillus anthracis*. The disease occurs most often in wild and domestic animals in Asia, Africa and parts of Europe; humans are rarely infected. The organism can exist as spores that allow survival in the environment, e.g. in soil, for many years.

Q2. How does anthrax usually affect humans?

There are three classical forms of human disease depending on how infection is acquired: cutaneous (skin), inhalation and ingestion. In over 95% of cases the infection is cutaneous, generally caught by direct contact with the skins or tissues of infected animals. Inhalation anthrax is rare and is caught by breathing in anthrax spores. Intestinal anthrax is very rare, and occurs from ingestion of contaminated meat or spores.

Q3. How has anthrax been affecting drug users in Scotland?

There is an ongoing outbreak of anthrax in heroin users in Scotland. Since December 2009, a significant number of heroin users have been found to have anthrax infection. Sadly, a number of these people have died. It is thought that they contracted anthrax from taking heroin contaminated by anthrax spores.

Q4. How common is anthrax?

The disease was also known as 'wool-sorters disease' and was a recognised occupational hazard for some workers, including woollen mill workers, abattoir workers, tanners, and those who process hides, hair, bone and bone products. However, anthrax is now uncommon in humans in the UK, only a handful of cutaneous cases have been notified over the last decade. A death from anthrax occurred in Scotland in 2006; this was a case of atypical inhalation anthrax which probably followed exposure as a result of playing/handling animal hide drums. Human infections are more frequent in countries where the disease is common in animals, including countries in South and Central America, southern and eastern Europe, Asia and Africa.

Anthrax in drug users appears to be very rare; prior to the current outbreak in Scotland, only one previous case had been reported in Norway in 2000.

Q5. How long can you have the infection before developing symptoms?

This is dependent on the dose and route of exposure and may vary from one day to eight weeks. However, symptoms usually develop within 48 hours with inhalation anthrax and 1-7 days with cutaneous anthrax. It is not known exactly how long symptoms can take to develop following the use of contaminated heroin, however in most cases during the current outbreak, symptoms started within 1 to 7 days of taking heroin.

Q6. What are the symptoms?

Early identification of anthrax can be difficult as the initial symptoms are similar to other illnesses.

Symptoms vary according to the route of infection:

Anthrax in drug users

Drug users may become infected with anthrax when heroin or the cutting agent mixed with heroin has become contaminated with anthrax spores. This could be a source of infection if injected, smoked or snorted. The clinical presentation is likely to vary according to the way in which the heroin is taken and might include:

- Swelling and redness at an injection site, which may or may not be painful
- Abscess or ulcer at an injection site often with marked swelling (oedema)
- Septicaemia (blood poisoning)
- Meningitis
- Symptoms of inhalational anthrax (see below)

Cutaneous anthrax - Local skin involvement after direct contact.

- Commonly seen on hands, forearms, head and neck. The lesion is usually single
- 1-7 days after exposure a raised, itchy, inflamed pimple appears followed by a papule that turns vesicular (into a blister). Extensive oedema or swelling accompanies the lesion – the swelling tends to be much greater than would normally be expected for the size of the lesion and this is usually PAINLESS
- The blister then ulcerates and then 2-6 days later the classical black eschar develops
- If left untreated the infection can spread to cause blood poisoning

Inhalation anthrax - symptoms begin with a flu-like illness (fever, headache, muscle aches and non-productive cough) followed by severe respiratory difficulties and shock 2-6 days later. Untreated disease is usually fatal, and treatment must be given as soon as possible to reduce mortality.

Intestinal anthrax is contracted by the ingestion of contaminated carcasses and results in severe disease which can be fatal. This is found in some parts of the world where the value of an animal dying unexpectedly outweighs any fears of contracting the disease.

Q7. Can anthrax be treated?

Cutaneous anthrax can be readily treated and cured with antibiotics. Mortality is often high with inhalation and gastrointestinal anthrax, since successful treatment depends on early recognition of the disease.

Prompt treatment with antibiotics and, where appropriate, surgery is important in the management of anthrax related to drug use.

Q8. How is anthrax spread?

A person can get anthrax if they inject, inhale, ingest or come into direct physical contact (touching) with the spores from the bacteria. These spores can be found in the soil or in contaminated drugs. It is extremely rare for anthrax to spread from person-to-person. Airborne transmission from one person to another does not occur;

Title: Anthrax in Drug Users: Q&As

Date: 18/01/10

Version 1.0

Status: Final

there have been one or two reports of spread from skin anthrax but this is very, very rare.

Q9. How do drug users become infected with anthrax?

Heroin or the cutting agent mixed with heroin may become contaminated with anthrax spores from the environment. This could be a source of infection if injected, smoked, or snorted.