CONDITION

Glandular plague

Glandular plague is a serious bacterial infection that causes fever and painful, swollen lymph nodes.

WHAT IT IS
Acute bacterial infection causing swollen lymph nodes

BODY SYSTEM
Lymphatic and immune systems

MAIN SYMPTOMS
Fever, painful swollen nodes, chills, weakness

WHAT CAUSES IT
Infection with Yersinia pestis bacteria

HOW IT IS DIAGNOSED
Culture or molecular testing of blood or node fluid

MAIN TREATMENT
Urgent antibiotic treatment and supportive care

CAN IT BE CURED?
Yes, antibiotics can clear the infection

IS IT AN EMERGENCY?
Yes, suspected plague needs immediate treatment

LONG-TERM OUTLOOK
Often good with prompt treatment, poor if untreated

Overview

Glandular plague is the form of plague that mainly affects the lymph nodes. It is more commonly called bubonic plague . A lymph node is a small part of the immune system that helps filter germs. An infected, enlarged lymph node is called a bubo .

The condition is caused by the bacterium Yersinia pestis . People usually become infected after the bite of a flea that has fed on an infected animal. Infection can also follow direct contact with the blood or tissues of an infected animal.

Glandular plague is uncommon in most parts of the world, but it still occurs in some rural areas of Africa, Asia, and the Americas. Wild rodents and their fleas can carry the bacteria. Risk is linked more closely to contact with infected animals or fleas than to ordinary contact with towns or cities.

This is a medical emergency because the infection can spread into the bloodstream or lungs. Prompt antibiotics like amoxicillin or doxycycline can cure it and greatly improve the outlook. Treatment may need to begin before laboratory results are available.

Glandular plague does not usually spread directly from one person to another. However, if plague reaches the lungs, it can become pneumonic plague, which may spread through respiratory droplets during close contact.

Symptoms

Symptoms usually begin suddenly, often within several days of exposure. The main feature is one or more painful, swollen lymph nodes. The nodes may be very tender and can become several centimetres wide.

Common symptoms include:

The skin over a bubo may look red or feel warm. The swollen node can occasionally break down and drain, but you should not squeeze or try to open it.

The position of the bubo may give a clue about where an infected flea bit. For example, a bite on the leg may lead to swelling in the groin. Not everyone notices a flea bite or remembers contact with an animal.

Symptoms of infection spreading into the bloodstream may include confusion, severe weakness, abdominal pain, unusual bleeding, or dark and damaged skin. Spread to the lungs may cause cough, chest pain, shortness of breath, or bloody mucus. These are emergency symptoms.

Other infections can also cause fever and swollen lymph nodes. Symptoms alone cannot confirm glandular plague.

- Sudden fever and chills
- A painful, swollen lymph node, usually in the groin, armpit, or neck
- Headache, marked tiredness, and muscle aches
- Nausea, vomiting, or abdominal discomfort

Causes and risk factors

Glandular plague is caused by Yersinia pestis . The bacteria circulate naturally between certain wild animals and fleas. Rodents are important hosts, but rabbits, hares, prairie dogs, squirrels,

and other mammals may also be involved.

A person may become infected through:

Dogs and cats can bring infected fleas into homes. Cats can also become seriously ill with plague and may pass respiratory droplets if they develop a lung infection.

Risk is higher when living, working, camping, or hunting in an area where plague occurs, particularly during an animal outbreak. Activities that involve handling wild animals or spending time close to rodent burrows can increase exposure.

Glandular plague is not inherited. Everyday contact with a person who has only the glandular form is not usually considered a transmission risk. Close contacts need special assessment if pneumonic plague is suspected or if they shared the same flea exposure.

- The bite of an infected flea
- Handling an infected animal, carcass, blood, or body tissue
- A bite or scratch from an infected domestic animal, especially a cat
- Rare laboratory exposure to the bacteria

Diagnosis

A healthcare team may suspect glandular plague from the sudden symptoms, a bubo, and a history of possible exposure. Useful details include recent travel, flea bites, sick or dead animals, hunting, camping, and contact with someone who had suspected pneumonic plague.

Laboratory testing is needed to confirm the infection. Samples may include:

A culture tries to grow the bacteria in a laboratory. Molecular tests, such as polymerase chain reaction or PCR, look for the bacteria's genetic material. Testing must be handled by laboratories with suitable safety procedures.

Because delayed treatment can be dangerous, antibiotics are normally started as soon as plague is reasonably suspected. Treatment should not wait for confirmation. The healthcare team will also contact public health authorities, who can arrange specialised testing and assess whether anyone else was exposed.

Other possible causes of swollen nodes may be investigated, including common bacterial infections, cat-scratch infection, tularemia, or an infected skin wound.

- Fluid taken from a swollen lymph node with a needle
- Blood for culture and molecular testing

- Mucus from the lungs if there is a cough or breathing problem

Treatment and management

Glandular plague is treated with antibiotics. Several types are effective against Yersinia pestis . The choice depends on how unwell you are, whether the infection has spread, local recommendations, allergies, pregnancy, age, and other health conditions.

Treatment usually starts in hospital because symptoms can worsen quickly and intravenous medicine may be needed. Once you are improving, the healthcare team may change how the antibiotic is given. It is important to complete the prescribed course even if the fever and pain settle.

Supportive care may include fluids, oxygen, medicine for pain or fever, and monitoring of blood pressure, kidney function, breathing, and blood clotting. Intensive care may be needed if the infection has caused shock, organ injury, or severe pneumonia.

A bubo often becomes smaller as antibiotics work. It is not normally something you should drain yourself. In selected cases, a clinician may remove fluid to test it or manage a complication.

If pneumonic plague is possible, respiratory precautions are used to protect other people. Close contacts may be monitored and offered preventive antibiotics after assessment by public health specialists. People exposed to the same infected fleas or animal may also need evaluation.

Complications

Without prompt treatment, the bacteria may leave the lymph nodes and spread through the body.

Possible complications include:

Severe infection can affect the kidneys, liver, heart, or brain. It can be fatal, especially when treatment is delayed. Prompt antibiotics reduce the chance of these complications.

- Septicemic plague: infection in the bloodstream, which can cause dangerously low blood pressure and organ damage
- Pneumonic plague: infection of the lungs, causing cough, chest pain, and breathing difficulty

- Meningitis: infection of the tissues around the brain and spinal cord
- Tissue damage: reduced blood flow and abnormal clotting can damage fingers, toes, or other skin
- Abscess or ongoing drainage: a bubo may sometimes form a pocket of infected material

Prevention

There is no way to remove all risk in places where plague circulates among wild animals. No plague vaccine is routinely available for the general public in many countries. Practical steps can reduce exposure to infected fleas and animals.

In an area where plague occurs:

Wear gloves if handling an animal is unavoidable, and follow local public health or wildlife instructions for reporting dead animals. Do not handle a sick cat with fever, swollen nodes, or breathing symptoms without veterinary guidance.

After a recognised high-risk exposure, public health specialists may recommend preventive antibiotics and symptom monitoring. This is different from routine antibiotic use and requires an individual exposure assessment.

- Avoid touching sick or dead wild animals with bare hands
- Keep pets from roaming or hunting rodents where possible
- Use veterinarian-recommended flea control for dogs and cats
- Reduce rodent access to homes, sheds, food, rubbish, and pet food
- Avoid sleeping directly beside rodent burrows or nests
- Use an appropriate insect repellent and protective clothing outdoors

Living with it and what to expect

Glandular plague is an acute infection, not usually a lifelong condition. With effective treatment, fever and general illness often begin to improve within the first few days. Painful lymph nodes may take longer to shrink, and tiredness can continue during recovery.

The length of recovery is influenced by how early treatment began and whether the infection affected the bloodstream, lungs, or other organs. Someone recovering from uncomplicated glandular plague may return to usual activities gradually over days to weeks. Recovery after intensive care or organ damage can take much longer.

Follow-up may be needed to check that fever has not returned, lymph nodes are healing, and antibiotic side effects have settled. A node that remains enlarged for a while does not by itself mean that active infection continues, but persistent swelling, increasing pain, or drainage should be reviewed.

Once successfully treated, the bacteria do not normally remain dormant in the body. Having plague does not guarantee reliable lifelong protection. Reinfection is possible after another exposure.

Most people who recover without major complications do not need permanent lifestyle changes. Those with lasting lung, kidney, nerve, or tissue damage may need rehabilitation or specialist follow-up.

When to get medical help

Seek emergency medical care now if you develop sudden fever with a painful swollen lymph node after:

Tell emergency staff about the possible exposure before or as soon as you arrive. This helps them arrange suitable testing and precautions. Do not wait for symptoms to become severe.

Call emergency services for breathing difficulty, chest pain, bloody mucus, confusion, fainting, unusual bleeding, blue or darkened skin, or rapidly worsening weakness.

If you are already receiving treatment, seek prompt medical advice if fever returns, the bubo becomes more painful or starts draining, you cannot keep medicine down, or you develop a possible medication reaction.

Routine follow-up after treatment is different from emergency care. It may cover recovery, healing lymph nodes, test results, medication effects, and any longer-term complications.

- A flea bite in an area where plague occurs
- Contact with a sick or dead wild animal
- A bite, scratch, or close contact with a sick cat
- Close exposure to someone suspected of having pneumonic plague

Common questions

Is glandular plague the same as bubonic plague?

Yes. Glandular plague is another name for bubonic plague. "Bubonic" refers to the painful

swollen lymph nodes, called buboes, that are typical of this form.

Can glandular plague be cured?

Yes. Appropriate antibiotics can clear the infection. The chance of a good recovery is much better when treatment starts promptly, before the bacteria spread to the bloodstream or lungs.

Can I catch it from another person?

The glandular form does not usually spread between people. Person-to-person spread is mainly a concern when plague infects the lungs and respiratory droplets are released by coughing. Public health teams assess close contacts when this is possible.

Do rats always cause plague?

No. The bacteria can infect several wild mammal species. Fleas usually carry the bacteria from an infected animal to a person. Direct contact with infected animals, particularly cats or animal carcasses, can also transmit it.

Does a swollen lymph node mean I have plague?

Usually not. Swollen lymph nodes have many more common causes, including throat, skin, and dental infections. Plague becomes more concerning when sudden fever and a very painful node follow a relevant flea, animal, travel, or close respiratory exposure. Testing is needed for confirmation.

Does plague still exist today?

Yes. Natural cycles of Yersinia pestis continue among animals and fleas in some parts of the world, including limited areas of the western United States. Human cases are uncommon in many countries, but outbreaks still occur.

Sources

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