CONDITION

Scrofula

Scrofula is a long-lasting infection of neck lymph nodes caused by tuberculosis or related bacteria.

WHAT IT IS
Long-lasting mycobacterial infection of neck lymph nodes

BODY SYSTEM
Lymphatic and immune system

MAIN SYMPTOMS
Painless neck lump, swelling, skin drainage, fever

WHAT CAUSES IT
Tuberculosis or other mycobacterial infection

HOW IT IS DIAGNOSED
Lymph-node sample, culture, and molecular testing

MAIN TREATMENT
Combination antibiotics; sometimes lymph-node surgery

CAN IT BE CURED?
Yes - appropriate treatment usually clears infection

IS IT AN EMERGENCY?
Sometimes - with breathing or swallowing difficulty

LONG-TERM OUTLOOK
Usually good after completed treatment; recurrence can occur

Overview

Scrofula is an infection of the lymph nodes in the neck. Lymph nodes are small structures that help the immune system filter germs and damaged cells. The condition is usually caused by Mycobacterium tuberculosis , the bacterium responsible for tuberculosis, or by related bacteria called nontuberculous mycobacteria.

When tuberculosis is the cause, the condition is called tuberculous lymphadenitis. This is a form of tuberculosis outside the lungs, known as extrapulmonary tuberculosis. Nontuberculous mycobacteria are found naturally in soil and water. They are a more common cause of this type of neck infection in some children.

Scrofula often develops slowly. A neck lump may grow over weeks or months and may not hurt. Without treatment, the affected node can soften, damage the overlying skin, or drain

through an opening called a sinus tract.

The name "scrofula" is historical. Today, identifying the exact bacterium matters because tuberculosis and nontuberculous mycobacterial infections are managed differently. Testing is also important because other conditions, including ordinary bacterial infections, inflammatory conditions, and cancer, can cause enlarged neck nodes.

Symptoms

The usual symptom is one or more enlarged lymph nodes, often along the side of the neck or above the collarbone. The swelling commonly develops gradually and may be painless.

The affected nodes may:

Some people with tuberculosis-related scrofula also have fever, night sweats, tiredness, reduced appetite, or unplanned weight loss. These symptoms are not present in everyone.

Cough, chest pain, or coughing up blood may suggest tuberculosis in the lungs as well as the lymph nodes. Lung involvement is important because pulmonary tuberculosis can spread through the air.

Children with nontuberculous mycobacterial lymphadenitis may otherwise seem well. A slowly enlarging node under the jaw is common, and the skin may gradually turn pink or purple.

Scrofula does not explain every neck lump. Viral infections, dental infections, thyroid conditions, cysts, and several other conditions can cause swelling in the same area.

- Feel firm at first and become softer later
- Join together into a larger mass
- Cause the skin above them to become red, purple, or thin
- Break through the skin and release fluid or pus

Causes and risk factors

Tuberculosis-related scrofula occurs when M. tuberculosis reaches a neck lymph node. Infection usually begins after a person breathes in the bacteria. The immune system may contain the infection for months or years before it becomes active.

Exposure is more likely after prolonged indoor contact with someone who has untreated infectious tuberculosis. Factors that can make active tuberculosis more likely include a weakened immune system, HIV infection, medicines that suppress immunity, and certain

long-term health conditions.

Nontuberculous mycobacteria do not usually spread from person to person. They live in the environment and may enter the body through the mouth, breathing passages, or small breaks in the skin. Young children are especially affected by nontuberculous mycobacterial infection of the neck nodes, although it can occur at other ages.

A neck-node tuberculosis infection by itself is usually not contagious. However, some people also have tuberculosis in the lungs or voice box, which can spread through the air. Testing for infection elsewhere in the body helps determine whether precautions and contact testing are needed.

Diagnosis

Diagnosis begins with a medical history and examination of the neck. You may be asked about how long the swelling has been present, tuberculosis exposure, travel or previous residence, immune-system conditions, and symptoms involving the lungs or the rest of the body.

An ultrasound can show the size and structure of the lymph nodes. A chest X-ray or other chest imaging may be used to look for tuberculosis in the lungs.

Confirming scrofula usually requires a sample from the affected node. This may be collected with a thin needle, a larger biopsy needle, or an operation that removes part or all of the node. The sample can be examined for:

Culture can take time because mycobacteria grow slowly. It is important because it can identify the species and, for tuberculosis, show which antibiotics like amoxicillin or doxycycline are likely to work.

A tuberculosis skin test or an interferon-gamma release assay, often called a TB blood test, can support evidence of tuberculosis infection. Neither test proves that a neck node is infected, so they do not replace sampling when confirmation is needed.

- Inflammation patterns associated with mycobacterial infection
- Acid-fast bacilli, a group that includes tuberculosis bacteria
- Bacterial growth in a mycobacterial culture
- Genetic material from M. tuberculosis using a molecular test

Treatment and management

Treatment is based on whether the infection is tuberculosis or a nontuberculous mycobacterium. The person's age, immune health, test results, and any infection elsewhere in the body also matter.

Tuberculous lymphadenitis is treated with a combination of tuberculosis antibiotics over several months. Using several medicines together lowers the chance that the bacteria will become resistant. Treatment may be adjusted if testing finds drug resistance or if side effects occur.

It is important to take the medicines for the full planned course, even after the swelling improves. Tuberculosis services may provide scheduled check-ins or supervised treatment to make completing therapy easier and safer.

The lymph nodes can sometimes become larger or new nodes can appear after effective tuberculosis treatment begins. This is called a paradoxical reaction. It results from the immune response and does not always mean that treatment has failed. A new or worsening swelling still needs assessment to rule out resistance, missed doses, another infection, or another diagnosis.

Surgery is not routinely needed to remove tuberculosis-infected nodes. A needle procedure may be used to relieve a tense, uncomfortable collection or obtain another sample. Repeated open drainage can leave a long-lasting sinus tract or scar, so the approach is chosen carefully.

For nontuberculous mycobacterial lymphadenitis, complete surgical removal may be considered, particularly in otherwise healthy children with a localised node. Surgery may not be suitable if the node is close to important facial nerves or other structures. Antibiotics active against the identified species may be used when surgery is incomplete, unsafe, or not appropriate.

All of these treatments can have side effects. Follow-up may include blood tests, eye checks, or other monitoring based on the medicines used. New vision changes, yellowing of the skin or eyes, severe vomiting, marked weakness, or a widespread rash should be reported promptly.

Complications

Without effective treatment, an infected lymph node may enlarge, soften, and drain through the skin. This can lead to persistent discharge, skin damage, and scarring.

Tuberculosis may also be present in the lungs or spread to other areas, especially when the immune system is weakened. Possible sites include other lymph nodes, bones, the abdomen, or the tissues around the brain. These forms require prompt specialist care.

Large neck swellings can occasionally press on nearby structures. Difficulty breathing or

swallowing needs urgent assessment.

Treatment complications can include medicine-related liver injury, allergic reactions, vision problems, nerve symptoms, or interactions with other medicines. The risks differ among drugs, which is why monitoring is part of treatment.

Scrofula can return after treatment, particularly if the bacteria were resistant, the treatment course was not completed, or the immune system remains weakened.

Prevention

Scrofula cannot always be prevented.

The risk of tuberculosis-related scrofula can be reduced by identifying and treating infectious tuberculosis promptly. People who have spent substantial time with someone who has contagious lung tuberculosis may be offered testing. Treatment of latent tuberculosis-an infection that is present but not causing symptoms-can lower the chance that it will later become active.

Good ventilation and appropriate masks reduce spread when someone has infectious lung tuberculosis. Public health teams may arrange testing for household members and other close contacts.

The BCG vaccine helps protect children against some serious forms of tuberculosis, but it does not provide complete protection. Whether it is routinely offered differs between countries and depends on local tuberculosis risk.

There is no established way to prevent most nontuberculous mycobacterial lymph-node infections. These bacteria are common in soil and water, and ordinary environmental contact cannot be completely avoided.

Living with it and what to expect

Scrofula usually changes slowly rather than from day to day. Improvement also takes time. A node may remain noticeable for weeks or months after treatment starts, even when the infection is responding.

During tuberculosis treatment, regular appointments are used to check symptoms, medicine use, side effects, and test results. If there is possible lung involvement, temporary infection-control precautions may be needed until the care team confirms that the risk of airborne spread has passed.

Most people treated for drug-susceptible tuberculous lymphadenitis recover, although a small residual lump or scar may remain. Nontuberculous mycobacterial lymphadenitis also often clears with appropriate surgery or antibiotics. No individual outcome can be guaranteed, and recovery may take longer when infection is extensive, drug-resistant, or linked to reduced immunity.

A draining node can affect clothing, sleep, work, school, and confidence. Dressings may protect the skin and absorb fluid. Avoid squeezing, cutting, or trying to drain the node yourself, as this can damage the skin and make diagnosis or healing more difficult.

After treatment, routine follow-up may continue for a period to check that swelling is resolving and has not returned. A stable small lump does not necessarily mean active infection, but a growing lump, new drainage, fever, or renewed general symptoms should be reviewed.

When to get medical help

Arrange a medical assessment soon if you have a neck lump that persists, grows, or has no clear explanation. You should also seek assessment for a node that becomes soft, changes the skin colour, or starts draining.

Contact your healthcare service promptly if you have a neck lump together with:

Seek emergency care for difficulty breathing, severe difficulty swallowing, rapidly increasing neck swelling, coughing up a significant amount of blood, confusion, or collapse.

Routine follow-up is appropriate for a stable lump that is already being assessed or treated, unless new symptoms develop. Do not stop tuberculosis medicine on your own because a node enlarges or a side effect appears; contact the treating service promptly so the cause can be assessed safely.

- Ongoing fever, night sweats, or unplanned weight loss
- A persistent cough or known exposure to tuberculosis
- New swelling after starting treatment
- Medicine side effects such as jaundice, vision changes, or a widespread rash
- A weakened immune system

Common questions

Is scrofula the same as tuberculosis?

Not always. Scrofula often means tuberculosis infection of the neck lymph nodes, but related bacteria called nontuberculous mycobacteria can cause a similar condition. Laboratory testing of a lymph-node sample helps tell them apart.

Is scrofula contagious?

Tuberculosis limited to a lymph node is usually not spread through everyday contact. It can be contagious if tuberculosis is also present in the lungs or voice box. Nontuberculous mycobacterial lymphadenitis generally does not spread from person to person.

Can scrofula go away without treatment?

A lump may change in size, but untreated infection can persist, drain through the skin, or spread. Because several serious conditions can resemble scrofula, a persistent neck lump should be assessed rather than watched indefinitely.

How long does scrofula treatment take?

Tuberculosis treatment usually takes several months. Treatment may be longer if the bacteria are drug-resistant or the response is complicated. Nontuberculous infection may be managed with surgery, antibiotics, or both, so its treatment course is different.

Why is my lymph node getting bigger after treatment started?

Tuberculosis nodes can temporarily enlarge because the recovering immune system reacts strongly to bacterial material. This paradoxical reaction does not always mean treatment failure. However, enlargement also has other causes, so it should be reported and assessed.

Will the neck lump disappear completely?

It often becomes much smaller, but a small residual node, thickened area, or scar may remain. Continued growth, renewed drainage, or new symptoms after treatment need follow-up.

Sources

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