CONDITION

Felty syndrome

Felty syndrome is a rare complication of rheumatoid arthritis that causes low infection-fighting white blood cells.

WHAT IT IS
Rheumatoid arthritis with persistently low neutrophils

BODY SYSTEM
Immune system, joints, blood, and spleen

MAIN SYMPTOMS
Recurrent infections, fever, joint symptoms, fatigue

WHAT CAUSES IT
Immune changes linked to rheumatoid arthritis

HOW IT IS DIAGNOSED
Blood counts, arthritis history, and exclusion of other causes

MAIN TREATMENT
Rheumatoid arthritis medicines and infection management

CAN IT BE CURED?
No - treatment can control neutropenia

IS IT AN EMERGENCY?
Sometimes - fever with neutropenia needs urgent care

LONG-TERM OUTLOOK
Often manageable, but serious infections remain possible

Overview

Felty syndrome is an uncommon complication of rheumatoid arthritis. Its main feature is a low level of neutrophils, a type of white blood cell that helps protect you from bacterial and fungal infections.

Many people with Felty syndrome also have an enlarged spleen. This explains its older name, "splenomegaly with rheumatoid arthritis." However, an enlarged spleen is not required for diagnosis.

Felty syndrome usually develops after rheumatoid arthritis has been present for many years. The arthritis is often "seropositive," meaning blood tests detect antibodies associated with rheumatoid arthritis. However, Felty syndrome can occasionally be recognised around the same time as the arthritis.

Low neutrophil levels are called neutropenia . Mild neutropenia may cause no obvious problems. As the level falls, infections become more likely and may become serious more quickly. This infection risk is why monitoring and treatment matter.

Felty syndrome can resemble other conditions, especially a blood disorder called large granular lymphocytic leukaemia. A careful assessment is needed rather than relying on an enlarged spleen or one abnormal blood test alone.[1,2]

Symptoms

Some symptoms come from low neutrophil levels. Others are related to rheumatoid arthritis, an enlarged spleen, or low levels of other blood cells.

Possible symptoms include:

Not everyone has noticeable symptoms from neutropenia. It may first appear on a routine complete blood count.

Rheumatoid arthritis may be less visibly inflamed when Felty syndrome is found, even if it caused substantial joint damage in the past. This means quiet-looking joints do not rule the condition out.

- Repeated skin, mouth, chest, or urinary infections
- Fever, chills, or feeling suddenly unwell
- Painful mouth ulcers or inflamed gums
- Ongoing joint pain, swelling, stiffness, or joint damage
- Fatigue, weakness, or shortness of breath from anaemia
- Discomfort or fullness beneath the left ribs from an enlarged spleen
- Unexplained weight loss or reduced appetite
- Brown patches or sores on the lower legs

Causes and risk factors

The exact cause is not fully understood. Felty syndrome appears to result from abnormal immune activity associated with rheumatoid arthritis.

Neutrophils may be destroyed or removed from the blood too quickly. An enlarged spleen can trap blood cells, but spleen enlargement does not explain every case. The bone marrow, where

blood cells are made, may also respond differently to immune signals.

Felty syndrome is more strongly associated with:

These features increase the possibility of Felty syndrome but do not mean that someone will develop it. Most people with rheumatoid arthritis do not.

Some genetic patterns are more common among affected people, but Felty syndrome is not considered a condition that passes directly from parent to child in a predictable way.[1,3]

- Long-standing rheumatoid arthritis
- Rheumatoid factor or anti-CCP antibodies in the blood
- Rheumatoid nodules, which are firm lumps under the skin
- Severe or joint-damaging rheumatoid arthritis
- Other effects of rheumatoid arthritis outside the joints

Diagnosis

There is no single test that proves Felty syndrome. Diagnosis is based on persistent neutropenia in someone with rheumatoid arthritis, together with tests to rule out other explanations.

A complete blood count measures neutrophils and other blood cells. The absolute neutrophil count , often shortened to ANC, shows how many neutrophils are circulating. More than one test may be needed because counts can change over time or during an infection.

The assessment may include:

Medicines used for rheumatoid arthritis can sometimes lower blood cell counts. Other possible causes include viral infections, autoimmune conditions, vitamin deficiencies, and bone marrow disorders. These need to be considered before the neutropenia is attributed to Felty syndrome.

Large granular lymphocytic leukaemia can look particularly similar. Despite its name, it is often slow-growing. Specialised blood tests, including flow cytometry and tests looking for one abnormal group of lymphocytes, may help distinguish it from Felty syndrome. A bone marrow sample is not required for every person, but it may be used when the diagnosis remains uncertain or several blood cell types are low.[1,2]

- A review of rheumatoid arthritis symptoms, duration, and treatment
- Repeated blood counts and examination of a blood film

- Liver, kidney, inflammation, and rheumatoid arthritis antibody tests
- Tests for infections or nutritional deficiencies when appropriate
- An examination for spleen, liver, or lymph node enlargement
- Ultrasound or other imaging if internal organ enlargement is suspected

Treatment and management

Treatment aims to raise the neutrophil count, reduce infections, and control the immune activity linked to rheumatoid arthritis. Management is usually coordinated by a rheumatology team. A blood specialist may also be involved.

A disease-modifying antirheumatic drug, or DMARD , is often used. These medicines act on the immune processes that drive rheumatoid arthritis rather than only easing pain. Methotrexate has traditionally been used first for Felty syndrome, but the choice depends on previous treatments, blood counts, infections, and other health conditions.[1,2]

A biologic medicine such as rituximab may be considered when neutropenia does not improve enough with initial treatment. Evidence for Felty syndrome treatment mainly comes from case reports and small studies because the condition is rare. Treatment decisions therefore need individual review rather than a fixed approach.

Granulocyte colony-stimulating factor, or G-CSF , encourages the bone marrow to release more neutrophils. It may be used when neutropenia is severe, during a serious infection, or while longer-term treatment begins working. Blood counts are monitored because the response can be rapid and side effects can occur.

Infections may require prompt antibiotics or antifungal treatment. A severe infection may need hospital care and treatment through a vein.

Surgery to remove the spleen, called splenectomy , is now uncommon. It may be considered when severe neutropenia and repeated infections continue despite medical treatment. Neutropenia can return after surgery, and removing the spleen creates a lifelong risk from certain infections.

Pain relief, physical activity adapted to joint health, physiotherapy, and treatment of anaemia or skin ulcers may also form part of care. Medicines should not be stopped solely because a blood count is abnormal unless the prescribing team advises it; stopping rheumatoid arthritis treatment abruptly may allow inflammation to worsen.

Complications

The main complication is infection. Skin and breathing infections are common sites, but infection can develop anywhere. With marked neutropenia, an infection may spread into the bloodstream and cause sepsis.

Other possible complications include:

An enlarged spleen can contribute to low blood cell counts. Rarely, it may become painful or be injured.

- Anaemia or low platelet levels
- Slow-healing leg ulcers
- Liver or blood-vessel problems related to rheumatoid arthritis
- Side effects from immune-suppressing treatment
- Lasting joint damage and reduced movement

Prevention

There is no proven way to prevent Felty syndrome. It is an immune complication of rheumatoid arthritis, not something caused by lifestyle, poor hygiene, or an action you took.

Good control of rheumatoid arthritis is important for overall health, but it cannot guarantee that Felty syndrome will not develop.

If you have neutropenia, practical steps can reduce exposure to some infections. These include regular handwashing, caring for teeth and gums, cleaning cuts promptly, and avoiding close contact with people who are clearly unwell when possible.

Vaccination plans should be reviewed with your healthcare team. Some vaccines may be particularly important because of infection risk, while certain live vaccines may not be suitable during some immune-suppressing treatments. Recommendations should be matched to your medicines and health history.[4]

Living with it and what to expect

Felty syndrome usually needs long-term follow-up. Blood counts may improve with treatment, remain low, or move up and down over months and years. Rheumatoid arthritis also remains a long-term condition even when joint inflammation is well controlled.

Follow-up commonly includes blood counts, review of infections, medicine monitoring, and

assessment of arthritis symptoms. The schedule is usually closer when treatment changes or neutrophil levels are very low.

Some people have a lasting improvement in their neutrophil count after rheumatoid arthritis treatment. Others need ongoing treatment or occasional G-CSF. Repeated infections may continue, particularly when neutropenia remains severe.

Many people can continue work, family life, exercise, and usual activities with appropriate treatment and monitoring. Joint damage may still affect movement, grip, or energy. Physiotherapy, occupational therapy, and practical changes at home or work can help preserve independence.

Keep a current list of your medicines and tell healthcare professionals that you have neutropenia. This is especially important if you develop an infection or are prescribed a new medicine that can affect blood cells.

When to get medical help

Arrange routine follow-up if you notice more fatigue, new mouth ulcers, increased joint symptoms, easy bruising, or fullness beneath the left ribs. These symptoms deserve assessment but are not usually emergencies by themselves.

Contact your healthcare team promptly if infections are becoming more frequent, wounds are not healing, or you have new urinary, chest, dental, or skin symptoms.

A fever with neutropenia needs urgent medical assessment. A temperature of 38°C (100.4°F) or higher is commonly treated as urgent, even when you otherwise feel reasonably well. Do not wait for a routine appointment, because infection may progress without producing much redness, swelling, or pus.

Call emergency services if you have signs of a severe infection, including:

Tell the emergency team that you have neutropenia and rheumatoid arthritis.

- Difficulty breathing
- New confusion or extreme drowsiness
- Fainting or severe dizziness
- Blue, grey, pale, or blotchy skin
- Severe weakness or rapidly worsening illness

Common questions

Is Felty syndrome a type of cancer?

No. Felty syndrome is an immune complication of rheumatoid arthritis. However, large granular lymphocytic leukaemia can cause a similar combination of arthritis, neutropenia, and spleen enlargement. Blood or bone marrow tests may be needed to tell them apart.

Do I need an enlarged spleen to have Felty syndrome?

No. Spleen enlargement is common, but it is not required. Persistent neutropenia in the setting of rheumatoid arthritis is the key feature once other causes have been excluded.

Can Felty syndrome go away?

Treatment can bring neutrophil levels back toward a safer range and reduce infections. Some people have a lasting response, while others have recurring or persistent neutropenia. Continued monitoring is usually needed even after improvement.

Does Felty syndrome mean my rheumatoid arthritis is getting worse?

Not necessarily. Felty syndrome is associated with long-standing, strongly antibody-positive rheumatoid arthritis, but it can appear when the joints are not very inflamed. Blood counts and infection history provide information that joint symptoms alone cannot.

Is it safe to be around other people?

Felty syndrome is not contagious. Everyday contact is generally safe. When your neutrophil count is very low, it is sensible to avoid close contact with people who have a known contagious illness and to seek advice promptly if you develop infection symptoms.

Why am I still getting infections if my arthritis feels controlled?

Joint inflammation and neutrophil levels do not always improve together. Your arthritis may feel quiet while neutropenia continues. Medicines, other illnesses, and the severity of neutropenia may also affect infection risk.

Sources

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