What is Gout?

Gout is a condition that causes sudden, excruciating pain and swelling in the affected joints, particularly in the big toe. It is a metabolic disorder caused by an excessive amount of uric acid in the blood.

Gout can also arise from a high protein and fat diet and also alcohol. When the kidneys are unable to excrete the excess uric acid, it may end up being deposited as crystals in the joints. If left untreated, the joints may be damaged resulting in deformity and restricted mobility even after an acute attack has subsided.

Who gets affected?

Red swollen toe joint in acute gout

Gout often runs in families because of a genetic connection. Most people with gout have their first attack between the ages of 30 to 40. The majority are men, although women may develop the condition after menopause. This is because the female hormone known as oestrogen can help to excrete uric acid from the body. Other diseases such as diabetes, hypertension, leukaemia, and kidney disorders and certain medications can also cause gout.

What happens to the joints in Gout?

In some people, there is an abnormality in the metabolism of purine, a chemical compound found in many foods, leading to high levels of uric acid in the blood, far more than what the kidneys can excrete into the urine.

The excess uric acid in the blood is deposited as uric acid crystals in the joint cartilage, tendons and other surrounding tissues. The uric acid crystals irritate the synovial membrane that covers the joints, resulting in redness, pain and swelling. The joints commonly affected by gout are the big toe, foot, ankle, knee, elbow and wrist.

What are the stages of Gout?

Patients with gout do not suffer from continuous pain all the time. They experience sudden joint pains from “acute attacks”. When the acute attacks subside, they may feel well for months or even years, but the attacks may recur and become more frequent.

From a medical point of view, there are 4 stages of gout:

- **Asymptomatic phase** - Patients have elevated levels of uric acid in the blood, but do not experience any pain or swelling. Not all patients with high uric acid will have an acute attack.
- **Acute gout** - At this stage, uric acid crystals are deposited around the joint, causing sudden swelling and intense pain. This is commonly referred to as gout attack.
- **“Interval” gout** - In between gout attacks, patients may not experience any symptoms and will have normal joint function. The uric acid level remains high.
- **Chronic gout** - If treatment is not sought, years of gout attacks will cause damage to the affected joints, leading to deformity, chronic pain, and immobility.

Can uric acid crystals deposit anywhere else other than in the joints?

Elevated levels of uric acid may be deposited as crystals in the kidney forming uric acid kidney stones. These uric acid kidney stones, like the regular ones, may cause pain, obstruction to the flow of urine and infection. Clumps of uric acid crystals called tophi, can form around joints, tendon, ligaments and even in ear lobes of patients with chronic gout.

What are the risk factors?

A family history of gout is one of the risk factors. Gout is also linked to obesity, hypertension and diabetes. Some drugs like diuretics (commonly known as water tablets), can cause gout as a side-effect.

What are the symptoms?

The first sign of a gout attack is often a sudden, warm and throbbing pain of the affected joint. Within a few hours, this can rapidly escalate into excruciating pain, accompanied by swelling and redness of the joint. During this period, the skin around the joint will also be very tender and sensitive, setting off extreme pain at the slightest touch. Patients with an acute attack find walking very difficult and painful.

In the chronic stage, patients may have persistent pain, reduced function of the affected joint and occasionally tophi around the joints. Many patients with chronic gout have impaired kidney function or kidney failure, and hypertension.

How is Gout diagnosed?

If the patient exhibits the symptoms and signs of a gout attack, the doctor can confirm the diagnosis by physical examination and blood tests. X-rays can help in the assessment of the amount of bone and joint damage.

The most definitive test is a joint aspiration, where a needle is inserted in a swollen joint to obtain a sample of the joint fluid, for the examination of uric acid crystals.

What is the treatment?

There is currently no cure for gout but the symptoms and its progression can be controlled by a combination of medication and special diet.

a. Medication

NSAIDs (non-steroidal anti-inflammatory drugs or COX-2 inhibitors (eg. Celebrex and Arcoxia) are often prescribed to reduce the pain, swelling, and stiffness that result from the gout attack. Colchicine is also very effective in relieving the acute pain and can be taken two or three times a day. Colchicine can also be used to prevent acute attacks. A short course of steroids like prednisolone is also very effective in relieving an acute attack. Often, a combination of drugs is used to treat the symptoms.

To control gout in the long-term, other medication may be prescribed. Allopurinol, which reduces the production of uric acid, is often used. Such drugs need to be taken for the long term in order to control the uric acid level and prevent further acute attacks. Your doctor can advise you on the medication you need.

b. Diet

To further reduce the level of uric acid in the blood, a special low-purine diet is recommended. Foods that are high in purine, such as alcohol, liver, kidneys, salmon, sardine, dry beans, bean curd and soya bean drink should be avoided, and daily intake of protein-rich food like red meat should be limited. It is essential to seek advice from a dietician for complete details.

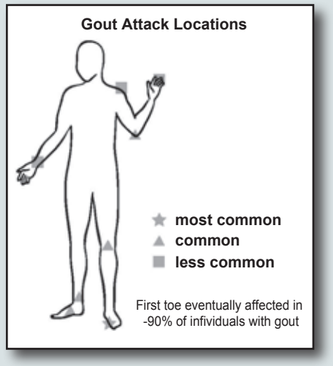
Overweight and obese patients need to go on a supervised weight loss programme. However, fasting and crash diets are not recommended as they aggravate the condition.

c. Surgery

Surgery is rarely used to treat gout. It is sometimes required when there is a need to remove infected tophi or tophi that interferes with joint movement. Tophi tend to recur unless hyperuricaemia (high uric acid in the blood) is corrected. In patients with extremely painful joints like the big toe or knee, an injection of steroid directly into the joints may be helpful.

In Summary

Gout is a common condition which requires early diagnosis and treatment. Doctors can do this with proper examination and blood tests. If untreated, it can result in chronic pain, joint deformity, tophi formation and eventually kidney failure. Anyone with more than 3 to 4 acute attacks of gout per year will probably need long term therapy with allopurinol to lower the uric acid level and prevent further attacks. Like any drug, allopurinol can cause side-effects such as fever and rash. If side-effects occur, do stop the drug immediately and contact your doctor for further advice.



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