GOUT

Gout is a common form of inflammatory arthritis that is very painful. It usually affects one joint at a time (often MP joint of the big toe). There are times when symptoms get worse, known as flares, and times when there are no symptoms, known as remission. Repeated bouts of gout can lead to gouty arthritis, a worsening form of arthritis.

SYMPTOMS:
The signs and symptoms of gout almost always occur suddenly and often at night. They include:

- Intense joint pain: Gout usually affects the big toe, but it can occur in any joint. Other commonly affected joints include the ankles, knees, elbows, wrists and fingers. The pain is likely to be most severe within the first four to 12 hours after it begins.

- Lingering discomfort: After the most severe pain subsides, some joint discomfort may last from a few days to a few weeks. Later attacks are likely to last longer and affect more joints.

- Inflammation: The affected joint or joints become swollen, tender, warm and red.

- Limited range of motion: As gout progresses, you may not be able to move your joints normally.

CAUSES:
-Gout happens when urate, a substance in your body, builds up and forms needle-shaped crystals in your joints. This leads to pain, swelling, redness, and changes in the movement and use of the affected joint. However, not everyone with high urate levels develops gout

-Urate comes from purines, which are found in your body's tissues and many foods. When purines break down, they become urate. Normally, urate passes out of your body in urine. However, when too little is removed, urate builds up in your blood and needle-shaped crystals form in your joints, causing inflammation that is experienced as gout flares that cause pain and swelling. However, certain factors may increase your chances of developing gout, including:

- Having high urate levels; however, not everyone who has high levels develops gout.
- Having a family history of gout.
- Increasing age.
- Drinking alcohol.
- Eating foods that are rich in purines (usually from animal sources), a substance that breaks down into urate.
- Drinking beverages that have high-fructose corn syrup, such as soda.

Some health conditions may increase your risk of developing gout, such as:

- Overweight or obesity.
- High blood sugar, abnormal cholesterol levels, and excess body fat around the waist.
- Chronic kidney disease, a condition that develops when your kidneys are damaged and cannot filter blood the way they should.
- High blood pressure.
- Conditions that cause the cells to turn over rapidly, such as psoriasis, hemolytic anemia, or some cancers.

Some medications can increase your risk of developing gout, such as:

- Diuretics, which help your body eliminate excess fluid.
- Low-dose aspirin.

- Niacin, a vitamin, when taken in large amounts.
- Cyclosporine, which is an immunosuppressant for people who have organ transplants and treats some autoimmune diseases.

TOPHI:
Urate crystals can also collect outside of the joints and can be seen under the skin, forming small, firm lumps called tophi. You can sometimes see the white colour of the urate crystals under the skin. The most common areas for tophi are:

- over the top of the toes
- back of the heel
- front of the knee
- backs of the fingers and wrists
- around the elbow

Tophi aren't usually painful. They can sometimes become inflamed, break down and leak fluid with gritty white material - these are the urate crystals. Tophi can also grow within the joints and cause damage to the cartilage and bone. This can lead to more regular, daily pain when you use the affected joints.

DIAGNOSIS:
Tests to help diagnose gout may include:

- Joint fluid test: Doctor may use a needle to draw fluid from your affected joint. Urate crystals may be visible when the fluid is examined under a microscope.
- Blood test: Doctor may recommend a blood test to measure the levels of uric acid in your blood.
- X-ray imaging: Joint X-rays can be helpful to rule out other causes of joint inflammation.
- Ultrasound: This is used to detect urate crystals in joints or in tophi.
- Dual-energy computerized tomography (DECT): This test combines X-ray images taken from many different angles to visualize urate crystals in joints.

TREATMENT:
There are two main parts to treating gout which include :

- Treating the acute attack
- Treatments to prevent future attacks.

Treating acute attack:
NSAID: Attacks of gout are often treated with NSAID tablets, which can help with pain and reduce some of inflammation. Naproxen, diclofenac, and etoricoxib are three NSAIDs that can be given.

Colchicine: Colchicine isn't a painkiller. But can be very effective at reducing the inflammation caused by urate crystals.

Steroids: Steroids are very useful for acute attacks of gout. They are usually taken as a short course of tablets, lasting a few days. However, they can also be taken as an injection into a muscle or joint affected by gout. This can be particularly helpful if gout is affecting only one joint.

Treatments to prevent future attacks:
Allopurinol: Allopurinol is the most commonly used. It's a very effective treatment for most people with gout. It works by reducing the amount of urate that your body makes.

Febuxostat: Febuxostat is a newer drug that reduces the amount of urate made in the body in the same way that allopurinol does.

Uricosuric drugs: Uricosuric drugs, which include sulfinpyrazone, benzbromarone and probenecid, work by flushing out more urate than normal through your kidneys.

PHYSIOTHERAPY:
Physiotherapy may include:

- Pain control
- Electrotherapy - TENS
- Strengthening and range of movement exercises
- Hydrotherapy
- Wax therapy
- Cryotherapy
- Mobilisation techniques
- Home exercise programme

References:
https://www.mayoclinic.org/diseases-conditions/gout/symptoms-causes
https://www.niams.nih.gov/health-topics/gout
https://www.versusarthritis.org/about-arthritis/conditions/gout/
https://www.physio.co.uk/what-we-treat/rheumatology/gout.php