



Gout

1. What is gout?

Many emperors and dignities suffered from the gout since the ancient times. The gout therefore is also known as the “imperial disease”. It generally occurs in forty to sixty-year-old men and postmenopausal women and highly associated with genetic factors and family-onset.

Gout is caused by “purines” metabolic abnormalities or kidney dysfunctional excretion of uric acid so that resulting in excessive blood uric acid and urate crystals deposition in joints that leads to pain, swelling and deformation in joints. The higher the serum uric acid concentration, the longer the duration, and the severer the incidence of gout will be.

The normal value of blood uric acid in human body is below 6.8 mg/dl. Fifteen percent of the citizens in our country may have higher serum uric acid levels. 50% of those who frequently drink alcoholic beverages may have higher uric acid value. It is worth of note that the high blood uric acid does not imply joint pain or even gouty joint inflammation. There are three aspects to confirm the diagnosis of gout: (1) Clinical criteria: including the severity of joint impact, symptoms, time of onset, and the presence of other Tophus; (2) Laboratory criteria: including blood uric acid concentration and bursal fluid examination; (3) Imaging standards: including ultrasound, dual-energy computed tomography and X-ray. A gout attack can be diagnosed when the sum of the scores in the above three aspects is greater than or equal to 8 points.

To deliver intelligent and holistic medicine and to provide the best healthcare
Compassion Quality Innovation Accountability

All information above has been reviewed by immunology and rheumatology specialists
Edited and published by the Department of Nursing,
Taichung Veterans General Hospital

2. Symptoms of gout

The gout process is basically known as following:

- (1) Acute gout: It often occurs at midnight. The affected site may appear redness, swelling, warm and severe pain. Any slight touch at this time will make the pain even worse. The pain is likely to be most severe within the first four to 12 hours after it begins. The initial stage of gout is generally attacking lower limb joints such as the big toe joint of the foot, ankle, knee, and subsequently, the later stage may possibly spread to joints of hand, wrist and elbow. 80-90% of the patients may have blood uric acid higher than normal. Nevertheless, there are still 10% of the gout patients may have normal value of blood uric acid during gout occurs.
- (2) Chronic gouty arthritis: Untreated gout may cause deposits of urate crystals to form hard nodules under the skin called tophi. Tophi can develop in several areas such as your joints, subcutaneous tissues, tendons and even internal organs. As tophi depositions occur in the joints and tissues, it may lead to deformity and dysfunctions of these joints and tissues.

3. Who may tend to develop gout?

Gout is highly associated with genetic factors and family-onset:

- (1) Genetics: The possibility of the occurrence of gout is ten times higher for those who have families with gout and hyperuricemia.
- (2) Gender: Men are more susceptible to gout than the women (Ratio 9:1). Yet, the postmenopausal women may have higher possibility of occurrence of gout.
- (3) Age: Gout is more likely to occur in middle-aged people aged 35-45 years-old. However, the disease is currently affecting younger people.
- (4) Obesity: If you are overweight, your body produces more uric acid and your kidneys have a more difficult time eliminating uric acid.

- (5) Diet- High purine contained diet (such as rich in meat, seafood and drinking beverages sweetened with fruit sugar, fructose), and excessive drinking, especially of beer, may easily elevate uric acid levels in your body so that increasing the risk of gout.

4. Treatments and self-care of the gout patients

The general principle of treating gout patients is to control of its acute attack and reduce chronic uric acid deposition causing tissue destruction. The treatment is mainly by medications and adjusting lifestyle. Methods including:

- (1) Medications: As acute gout onset, the non-steroidal anti-inflammatory drugs may have anti-inflammatory and analgesic effect. As arthritis alleviated, if the serum acid value is still high, then your doctor may recommend uric acid lowering agents to inhibit uric acid formation and promote the excretion of uric acid so that control the serum uric acid less than 6mg/dl (Those who have tophi should keep it less than 5mg/dl for preventing further deteriorating). Your doctor may recommend colchicine to relieve pain and prevent further attacks. Side effect of diarrhea is possible as employing such medication but often mild in low dose. It needs not to worry since diarrhea can be improved as reducing the dose of medication.
- (2) Exercise: Strenuous exercise can increase in sweating, reduction of uric acid excreting in the urine after exercise. However, lactic acid after exercise may also hinder the excretion of uric acid, so gout patients should avoid strenuous exercise during attacks. But appropriate exercise helps control weight and reducing the possibility of reoccurrence. Drink plenty of water after exercise is also recommended.
- (3) Drink plenty of water: drink water over 3000-4000cc per day may facilitate uric acid excretion and reduce the possibility of occurrence of kidney stone. Limit sweetened beverages is also helpful to prevent gout attacks.

- (4) Avoiding intake of high purine foods: yeast products (such as Yakult, brewer's yeast, yogurt) offal, seafood, broth, fish meats, dry beans, mushrooms, germ, etc. are all foods containing rich Purine. Gout patients should reduce intake of these foods as much as possible so that avoiding uric acid formation.
- (5) Avoiding drinking alcohol: Beer and distilled liquors are associated with an increased risk of gout and recurring attacks. Alcohol metabolism in the body will affect the excretion of uric acid cause gout, so you should avoid drinking alcohol. Avoid alcohol during gout attacks, and limit alcohol, especially beer, between attacks.

5. Conclusion

The diet focuses on appetite and overeating, and the age of gout is gradually getting younger, and it is no longer the patent of wealthy people. However, gout is a treatable and controllable disease. Therefore, a good understanding of the cause of the attack, appropriate medication and adjustment of good eating habits can help you stay away from the harm of the disease.

6. References

徐翊庭、李文騰、許敬暉、林孝義(2022) • 痛風及高尿酸血症最新

各國指引比較 • 內科學誌, 33, 365-377。

Gaffo, A. L. (2021). Clinical manifestations and diagnosis of

gout. *Up To Date*. Retrieved Mar 18,2022 from

[https://www-uptodate-com.ermg.vghtc.gov.tw/co](https://www-uptodate-com.ermg.vghtc.gov.tw/contents/clinical-manifestations-and-diagnosis-of-g)

[ntents/clinical-manifestations-and-diagnosis-of-g](https://www-uptodate-com.ermg.vghtc.gov.tw/contents/clinical-manifestations-and-diagnosis-of-g)

out?search=GOUT&source=search_result&select
edTitle=2~150&usage_type=default&display_rank=2

Fernando, P. R. (2021). Patient education: Gout (Beyond the Basics).

Up To Date. Retrieved Mar 18, 2022 from

<https://www.uptodate.com/contents/gout-beyond-the-basics>

Let's take the quiz to make sure you were understand

1. () A gout flare is an intensely painful and disabling inflammatory arthritis, Yes or No?
2. () The normal value of blood uric acid in human body is below 6.8g/dl, Yes or No?
3. () 40% of those who frequently drink alcoholic beverages may have higher uric acid value, Yes or No?
4. () Gout often occurs in often between the ages of 30 and 45 middle age, Yes or No?
5. () Treatments and self-care of the gout patients is including medications, exercise, drinking plenty of water, avoiding intake of high purine foods and drinking alcohol, Yes or No?