

# Effects of celery and the ways of using it for treating gout

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## ABSTRACT

Gout is a medical condition in which a chronic inflammation is appeared due to the location of uric acid crystals in joints and tissues. The most common joint is in the toe joint or metatarsopharyngeal joint. The causes of this disease is seen in unhealthy diet, kidney diseases , obesity , Age, diabetes and dehydration. Gout is considered as a painful and uncomfortable disease, which can wake the patient up during the midnight. Celery has been found to be really useful for lessening the goat's symptoms, and It contains effective combinations which can reduce the uric acid level in the body. For its compounds, we can mention: vitamin A, C and K, potassium, calcium, magnesium and Apigenin. Apigenin is one of the effective compounds in the Celery, which can effect in the Gout and reduce the amount of uric acid noticeably. patients with gout were consuming celery juice which has water in itself, have seen an incredible improvement in their treatment, the amount of uric acid has been decreased noticeably and the swelling and inflammation part of the gout has been healed in a short time. These patients didn't consume any kinds of chemical drugs or medicine.

**Keywords:** Gout, chronic inflammation, kidney disease, celery, uric acid crystals , Apigenin, metatarsopharyngeal joint.

## Introduction

Gout is a chronic disease, which is a form of arthritis. It is identified by its pain and inflammation and swelling joint [1]. Unfortunately there's no cure for gout. Only you can prevent it from other attacks [2]. Gout is somehow affected by age and gender [1]. There are some drugs which are prescribed by doctors to ease the pain and relieve an acute attack of gout [3] uric acid is the main reason for gout; by controlling the level of uric acid in the blood, we can control this disease. Celery by having apigenin can reduce the amount of uric acid in the blood. Uric acid can increase due to the unhealthy diet or because of kidney diseases. Kidney is an organ in the body which is responsible for filtering the blood, if it doesn't work properly the waste in the blood is started to increase and in the end many diseases will occur.

### *Gout*

Gout is a kind of inflammatory arthritis that can affect anyone. The patient may have sudden pain, redness and swelling, usually in the big toe.

Though most of the patients announced that they had pain in their big toes, and other joints, like the ankle, knees, elbows,

wristband fingers.[2] Others mentioned different locations such as tendon sheaths and kidneys.

The attack occurs out of sudden, and often in the middle of the night the pain can wake the patient up. It can make the patient feels that the affected area is on fire.

Males are more likely to develop this disease compare to females. This illness usually occurs in the middle age. Usually in younger it is not developed, though if this happens it would be harder.

Gout develops when urate crystals build up in the joint, it causes the inflammation and swelling there. Urate crystals build up when there is a lot of uric acid in the blood. Uric acid is produced when purines are broken down into pieces. Purines are formed while DNA is broken down.

Uric acid is known as a normal body waste product, so body needs to get away from it, kidneys are responsible for this. Normally uric acid passes through your kidneys by the help of blood, although sometimes body produces too much uric acid, or kidneys are not working well and can't get away from this waste, so in conclusion uric acid forms sharp crystals in joints or other tissues, which causes pain and inflammation. [1, 2]

### *Kidney diseases*

Kidneys are the organs in the body which are responsible for cleansing the body of wastes in the blood. If they don't work well

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due to some reasons such as chronic kidney disease, Polycystic kidney disease, kidney stones and acute kidney injury, kidneys can't filter the blood and the wastes can build up in blood and body.

If your patient suffers from kidney disease, he or she must follow these steps to prevent gout:

- having a special diet suitable with kidney disease; [4] reduce sodium and protein intake, reduce the consumption of red meat and shellfish, drinking beverages sweetened with fruit sugar can increase the amount of uric acid.
- consume your medications as it was prescribed [4]
- having controlled weight
- control your blood pressure and maintain a healthy blood sugar level

## Celery

(*Apium graveolens Dulce* group or *Apium graveolens var. dulce*) A plant which belongs to apiaceae family, it was first grown in the Mediterranean and Middle East. It is used as flavor in food and as vegetables in salad.

It can also be used in medical situations, due to its medical benefits. It is a complete source of: vitamin A, vitamin C, vitamin K, potassium, folate, calcium. It mainly consists of water, so it is a great vegetable for your diet, if you want to lose weight [5]

Apigenin a flavon which is found in many plants like parsley, celery, celeriac, basil, etc [6]. this molecule presents in several biological activities like Anti-inflammatory, antioxidant, antibacterial and antiviral.

Due to the fact that celery contains apigenin so it is recommended for patients who suffer from gout. Apigenin has Anti-inflammatory effect which can decrease the inflammation related to the gout. Apigenin also can reduce the amount of uric acid in the body, and helps kidney in its activities. As the gout is caused by high amount of uric acid in the blood, so it is mentioned that consuming celery is a effective way to help body to heal sooner [7].

This plant is rich in vitamin C and potassium especially in its root, which can help to reduce uric acid and reduce the possibility of gout attack [5].

Leaves of celery are rich in lutein and zeaxanthin, that can decrease the inflammation which caused by gout [5].

Can celery defeat gout?

Mentioning compounds have effects on gout, they can decrease the risks of getting another attack, and also can heal the pain and inflammation, really quick. The most remarkable compounds are: luteolin, 3-n-butylphthalide, beta-selinene and Apigenin [8] it was shown that luteolin has an influence on making nitric oxide from uric acid, it decreased the amounts of nitric oxide production, which is responsible for inflammation in gout [9].

3-n-butylphthalide and beta selinene are another compound in celery, which are responsible for reducing the inflammation from gout [10].

Apigenin, which belongs to the flavone class. It can be found in various vegetables, such as celery. It has effects on blood pressure

and can lower it. It also has antioxidant, Anti-inflammatory, anticancer and antimicrobial properties [11].

As it was shown in the study [12] Apigenin decreased the amount of uric acid in the blood. So it seems that celery can be a really good key for scientists to find a cure for gout. Compounds in celery are a best way to heal the pain of gout and to protect body from the other upcoming attacks.

## Conclusion

Although there are plenty of homemade remedies and medications which can reduce the probability of getting gout, there's no cure for the gout.

Doctors can prescribe drugs such as colchicine, which can ease the attack of gout [3].

Celery as a homemade remedy has effective compounds, which can help to flush up the uric acid from the blood, Apigenin and vitamins in celery are vital keys for its remedial effect.

Drinking celery juice combined with water can help the patients to reduce the inflammation and swelling that caused by gout, and also can prevent future attacks.

As it was mentioned, it is better to drink a specified amount of celery juice twice a day, and you will see a noticeable decrease in the swelling joint.

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