



## Pain Management in Gout through Leech therapy – A Case Study

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### Abstract

Gout is commonest among the articular diseases characterized by hyperuricemia resulting in deposition of monosodium urate crystals in various tissues. On the basis of etiology and symptomatology vatarakta is similar to that of vatarakta. Vatarakta common among lifestyle disorders and is caused by vitiation of vata and rakta resulting in srotodushti. Leech therapy is very effective in the management of vatarakta. According to Ayurveda, Jalauka is used to expel out the vitiated blood safely, quickly and effectively. Leeches not only suck the impure blood but also leave behind their saliva, which contains enzymes that help to cure the disease.

**Key words:** Leech, vatarakta, gout, pain.

### Introduction

Vatarakta is a painful condition. The condition develops suddenly and reoccurs after treatment. On the basis of etiology and symptomatology vatarakta is similar to that of vatarakta. The number of vatarakta patients is increasing day by day. When aggravated vata is obstructed by aggravated rakta, this obstructed vata again vitiates the rakta. This pathological state is known as Vatashonitam or Vatarakta. Vatarakta is described in detail in Charak Samhita and other samhitas also. In Sushruta Samhita, vatarakta is described in Vata vyadhi Adhyaya. In Vatarakta, mainly small joints of feet and hands are affected. Gout is also called metabolic arthritis. Its Greek name is podagra, from pod- foot and agra- trap. Gout is an abnormality of uric acid metabolism that results in hyperuricaemia, deposition of monosodium urate crystals in joints, soft tissue, and renal tubules.

### Epidemiology

It is a classical disease of adult men. From 10% to 25% of patients have a family history of gout. The incidence of gout in women increases in the postmenopausal period. Gout occurs in different stages i.e., asymptomatic hyperuricemia, acute gout, intercritical gout, chronic tophaceous gout. Gout is an abnormality of uric acid metabolism that results

in hyperuricaemia and deposition of monosodium urate crystals in joints, soft tissue, renal tubules.

### Clinical Presentation –

#### Symptoms

- Severe pain, swelling and warmth in the affected joints.
- The attack is usually monoarticular and the most common sites are the metatarsophalangeal and knee joints.

#### Signs

- Affected joints are warm, red and swollen
- Mild fever may be present
- Tophi may be present in chronic, severe disease

### Pain Management in Vatarakta –

Vitiated blood should be expelled out by raktamokshana. Jalaukavacharana (leech therapy) is considered as very effective method of raktamokshana. Acharya sushruta has described jalauka under the heading of Anushastram (parasurgical procedures). Leeches first suck the vitiated blood resulting pacification of vata.

### Mode of Action –

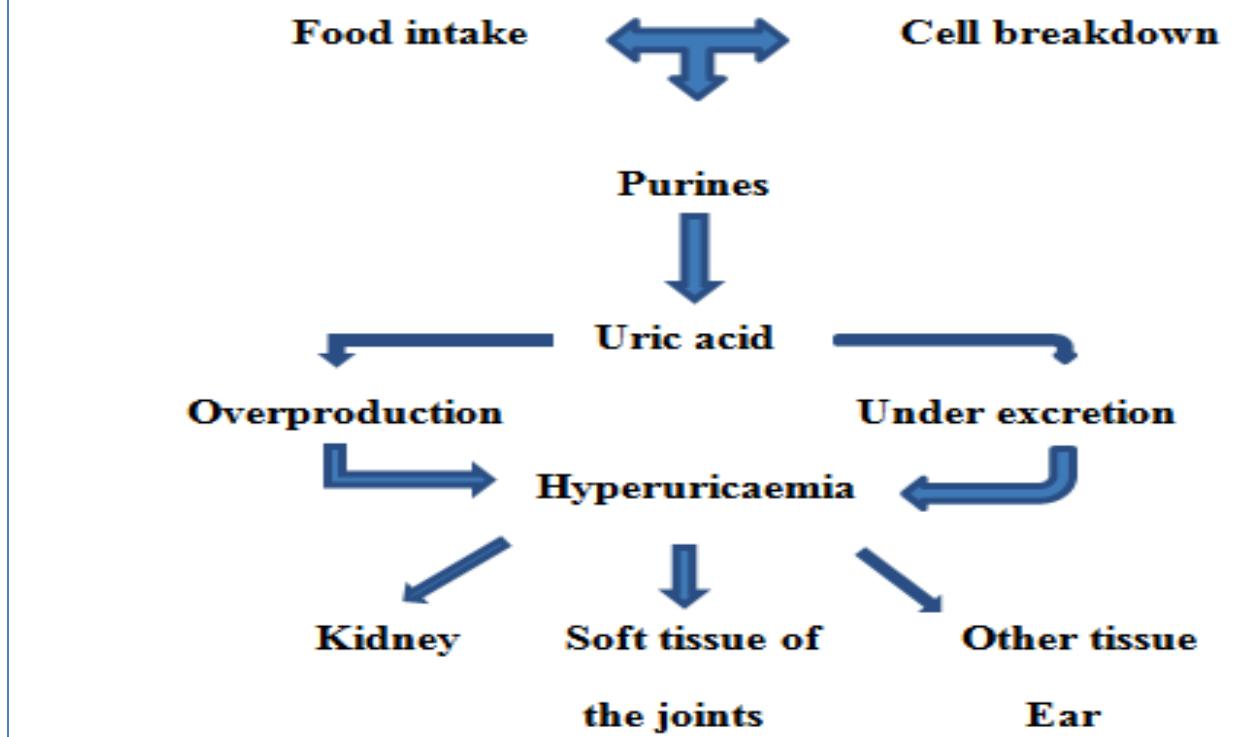
The secretion of salivary glands of leeches contains some bioactive substances, anti-inflammatory, bacteriostatic and analgesic actions. The saliva of leech contains substances that anaesthetize the wound area making the bite of leech painless and dilate blood vessels to increase blood flow to the site of bite.

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## Pathophysiology -



**Fig 1. Flow diagram of Pathophysiology**

### CASE STUDY

**Brief history:** A 46 year old female patient presented with severe pain and swelling near lateral malleolus of left leg for 2 days. She had similar episode of pain and swelling at that area three months ago.

#### Investigations-

- All routine investigations are within normal limits.
- S. Uric acid- 8.2 mg/dl

#### Treatment Plan-

Leech application with kaishor guggulu 2 bd for 1 month was given.

#### Preparation of leech:

Two medium sized active leeches were taken and kept in haridra water for few minutes for shodhan. After proper shodhan of leeches they were shifted to clean water.

#### Preparation of patient:

Patient was asked to lie down in supine position. Vitals of the patient were noted. The procedure was explained to the patient. A blood sample of the patient was taken for leech application. The most

painful area of the affected part was selected and cleaned with wet gauze and then with sterilized dry gauze.

#### Leech application procedure:

Leech was taken out of water by holding it with the help of thumb and index finger with gauze piece. A drop of blood from the sample blood was put on the affected part and leech was applied. As soon as the leech attaches itself to the site, it started sucking the blood and made his mouth like horse's hoof. In similar way other leech was also applied. The leeches were covered with wet cotton except its mouth and water was sprinkled on them at frequent intervals to keep it moist. When it completed sucking vitiated blood it fell down by itself, if not then dust haridra powder on the mouth of leech. During the procedure observe the patient carefully.

**Mechanism of action:** Leeches suck vitiated blood resulting in pacification of vata which is the reason for pain in that area. Leech saliva also contains some bioactive substances which play an active role in reducing the symptoms of the disease.

**Procedure after leech therapy:** After removing the leeches they were kept in haridra powder to vomit the whole blood that they sucked and after that put them in container having clean water.

**Care of the wound:** After removal of leech, the wound created by leech was covered with haridra

powder to arrest the bleeding and was bandaged tightly.

**Result:** There was tremendous relief in pain and the swelling was also reduced after one sitting of leech therapy. Within one month the pain and swelling got disappeared and S. uric acid level also came in normal range.



BEFORE TREATMENT



AFTER TREATMENT

Fig 2. Showing legs before and after the treatment

### Conclusion

Leech therapy can be an ideal therapy for pain management in acute gout, as it helps not only in reducing pain but also reduced swelling and redness without any side effects.

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