



Case Study

ROLE OF *JALAUKA AVACHARAN* (LEECH THERAPY) IN THE MANAGEMENT OF LIPODERMATOSCLEROSIS: A CASE STUDY

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ABSTRACT

Lipodermatosclerosis (Sclerosing Panniculitis) is uncommon and is associated with venous or arterial insufficiency. It presents as tender, indurated plaques in the lower legs. Lipomembranous panniculitis is a form of fat necrosis associated not only with stasis but also with autoimmune diseases, peripheral vascular diseases, and infection. There is fat necrosis, sclerosis, and a lymphocytic infiltrate in a lobular pattern. It appears to be a consequence of ischemia and venous stasis. It most frequently occurs in women and are usually accompanied by signs of venous insufficiency. It primarily treated with compression therapy to improve venous insufficiency. Venous insufficiency is also managed by leg elevation; regular exercise; not sitting or standing in one place for long period of time; and weight loss if overweight. A 65 years old male patient was having complaints of swelling over bilateral leg, wound over rt. leg since 8 month. Total 19 sittings of *Jalauka Avacharan* are done on alternate day. *Guduchi Churna*, *Londra Churna*, *Haridra Churna*, *Daruharidra Churna*, *Kusta Churna*, *Bakuchi Churna* all 100 gm each are mixed and divided into 120 parts. 5 gm of this mixture is given in BD dose for 60 days. Cleaning and dressing of wound done every day with *Vranshodhan tail*.

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INTRODUCTION

Lipodermatosclerosis refers to changes in skin of the lower legs. It is a form of lower extremity panniculitis, an inflammation of the layer of fat under the epidermis. One or both legs may be involved. Pain is the first noticed symptom. Other signs and symptoms are - hardening and/or thickening of the skin, changes in skin colour (redness), small white scarred areas (atrophie blanche), tapering of the legs above the ankles, forming a constricting band. In addition, there may be brownish-red pigmentation and induration^[1]. The exact cause of lipodermatosclerosis is unknown it may be related to certain vein abnormalities and or obesity. It often occurs in people with venous insufficiency. Approximately 2/3 of affected people are obese. Increased blood pressure in the vein can cause diffusion of substances, including fibrin, out of capillaries. Fibrotic tissue may predispose to ulceration. Recurrent ulceration and fat necrosis is associated with lipodermatosclerosis. In advanced

lipodermatosclerosis, the proximal leg swells from chronic venous obstruction and the lower leg shrinks from chronic ulceration and fat necrosis resulting in the inverted coke bottle appearance of the lower leg. It primarily treated with compression therapy to improve venous insufficiency. Venous insufficiency is also managed by leg elevation; regular exercise; not sitting or standing in one place for long period of time; and weight loss if overweight. Some people may require medications to prevent blood clotting; reduce pain and inflammation; and or increase blood flow. Depending on the severity of the condition and the response to initiate treatment, vein surgery may be required^[2].

Leech therapy (*Jalaukaavacharan*)

Leech i.e. *Jalauka* is an Hematophagous animals that feed on prey blood Since *Jala* (water) is their life, they are called *Jalauka* or since they are

accustomed/habituated to water they are called *Jalauka*.

They are of twelve kinds- six are *Savisa* (poisonous) and six number are *Nirvisa* (non poisonous). Poisonous leeches are *Krsna, Karbura, Alagarda, Indrayudha, Samudraka, and Gocandana*. Non poisonous leeches are *Kapila, Pingala, Sankumukhi, Musika, Pundarikamukhi and Savarika*. Leech therapy is indicated for the diseases in which blood is vitiated by *Pitta* and in the persons who either fear of or unfit for surgical procedures^[3].

These should be caught with the help of moist leather. Then they should be placed in a big pot containing water of ponds or tanks along with their silt. Algae, dried meat of aquatic animals and tubers all made into powder should be put into water to serve as food (for the leeches); straw, leaves of aquatic plants to serve as bed for sleeping; the water in the pot and food material should be changed once in every three days and they (leeches) should be transferred to another pot after every seven days.

Leeches contraindicated for use

Leeches which are big in their middle (abdomen), ugly in appearance, very thick (in width), slow in their activities (movement) which, do not bite, drink (suck) very little quantity of blood and which are poisonous are not ideal (unfit for use).

Leeches indicated for leech therapy

Medicinal leeches have three jaws with tiny rows of teeth. They pierce a person's skin with their teeth and insert anticoagulants through their saliva. The leeches are then allowed to extract blood, for 20 to 45 minutes at a time, from the persons undergoing treatment. This equates to a relatively small amount of blood, up to 15 millilitres per leech. During drawing blood they releases the proteins and peptides that thin blood and prevent tissue death. The leeches leave behind small, Y-shaped wound that usually heal without leaving scar. Leeches are effective at increasing blood circulation and breaking up blood clots. Chemical derived from leech saliva have been made into pharmaceutical drugs that can treat hypertension, varicose veins, hemorrhoids skin problems, arthritis. Leeches have been used in medicine to treat nervous system abnormalities, dental problem, skin diseases, and infections. They are mostly used in plastic surgery and other microsurgery, heart disease and cancer and diabetes.^[4]

Mechanism of action of leech therapy

Hematophagous animals that feed on prey blood have been known to overcome blood clotting

by secreting in their salivary gland secretion a multitude of biologically active compounds, especially the anticoagulants. Amongst the blood-sucking organisms, leech is a distinct example of an invertebrate, which possesses a highly-developed mechanism by which they prevents blood clotting. Based on feeding habit, leeches are divided into two major groups. The first group includes the predacious leeches, which are predators of many invertebrates. The second group, named the sanguivorous leeches are ectoparasites that feed on the blood of vertebrates including human. Leeches, both sanguivorous and predacious, digest their food in their intestine. The sanguivorous species only store blood inside their body for months. Actually, the digestion process of blood in hematophagous leeches undergoes many slow stages allowing leeches to store the ingested blood for upto 18 months. Symbiotic bacteria named *Aeromonas* spp., located in the leech gut, secrete enzymes that help not only in breaking down the components of the ingested blood, but also in producing antibiotics to prevents blood putrefaction after a long storage period in leech crop. Furthermore another presumed role of these enzymes is to prevent B complex deficiency, which often occurs in blood nutrition-dependending animals.^[5]

When leech attaches to a site, it releases three important substances into the area whilst drawing the clotted blood away. These substances are: a local anaesthetic (to reduce pain). A local vasodilator (to improve blood supply) Hirudin and calin (which prevent further clotting).^[6]

CASE REPORT

A 65 years old male patient came to us with chief complaints of –

- A) Swelling over bilateral leg
- B) Wound over right leg

Patient had above complaints since last 8 month.

No H/O any major surgery.

No H/O Hypertension / Diabetes mellitus / Asthma / Tuberculosis.

History of present illness

The patient has history Lipodermatosclerosis since last 8 months. He was taken modern medicine for that since last 8 months but symptoms does not decrease so for Ayurvedic Treatment he came to our hospital in Shalya tantra OPD.

On examination

- A) *Nadi* (pulse) = 60/min
- B) *Mala* (stool) = *Prakrut*
- C) *Mutra* (urine) = *Prakrut*
- D) *Jihwa* (tongue) = *Saam*

- E) Agni = *Kshudhamandya*
- F) Shabda (speech) = *Prakrut*
- G) Sparsha (skin) = *Prakrut*
- H) Druka (eyes) = *Prakrut*
- I) Akruti = *Sthul*
- J) Bala = *Madhyama*
- K) Raktachapa (B.P.) = 130/90 mm/Hg L)
- L) Adhibhar (weight) = 105 kg

Local Examination (Rt. Leg)

- Wound size: 5×5×2 cm
- Wound shape: Irregular
- Margin: fibrosed
- Discharge: serous

Investigations

- HB - 12.2 gm%
- TLC - 12,500/cumm
- Platelet count - 1.98 lacs /cumm
- DLC - N- 76% L- 15% E- 5% M- 6%
- HIV - Non reactive
- BSL - Fasting - 90 mg/dl
- P.P. - 169 mg/dl
- HBsAg - Non reactive

MATERIAL AND METHOD

1. *Jalauka Avacharan* is done on alternate days. (Total 19 sittings are done).
2. Internal medicines used in case study are:

Guduchi Churna, Londra Churna, Haridra Churna, Daruharidra Churna, Kusta Churna, Bakuchi Churna all 100 gm each are mixed and divided into 120 parts. 5 gm is given BD for 60 days. Also cleaning and dressing of wound done every day with *Vranshodhan tail*.

Surgical Protocol

The patient is laid down. The site of bloodletting is roughened by dusting it over with a composition of a loose earth and pulverized cow dung. Then the leeches are taken out of their receptacles and sprinkled over with water saturated with mustard seed and pasted turmeric. Then for a moment they are kept in a basin full of water, and after they regained their natural vivacity and freshness, they are applied to the affected part. Their bodies are covered with a piece of thin and wet linen. When there was a sensation of itching and of a drawing pain at the site of the application, the leeches are removed by sprinkling with the dust of powdered *Saindhava* (rock salt.)

After falling off, the leeches are dusted over with rice powder and their mouths are lubricated

with a composition of oil and common salt. Then they are caught by the tail-end with the thumb and the forefinger of the left hand and their backs are gently rubbed with the same fingers of right hand from tail upward to the mouth with a view to make them vomit the full quantity of blood they had sucked from the site of the disease.

An ulcer incident to an application of leeches is washed with sprays of cold water and bound up with turmeric paste. [7]

DISCUSSION

In Ayurveda lipodermatosclerosis can be compared with *Kaphapittaja Vrana*. the signs and symptoms of *Kaphapittaja Vrana* as described by Sushruta are - burning sensation, having yellow discharge, feeling heaviness in body. These are very similar to lipodermatosclerosis. Sushruta described 60 procedures for the treatment of *Vrana* (ulcerative and other lesion). One of the procedures is *Vistravan* (bloodletting) and *Jalauka Avacharan* is type of *Vistravan* (bloodletting) which is used in *Pitta* dominant diseases. In this case 19 times *Jalauka Avacharan* was done. In treatment of lipodermatosclerosis, it is given in modern medicine that weight loss is necessary. So for weight loss, *Karshan dravyas* are given. Also patient is advised walking exercise for 30 minutes a day.

Observations and Result

S. No	Criteria	Before Treatment	After Treatment
1	Wound size	5×5×2	2×2×0.5
2	Discharge (serous)	+++++	Absent
3	Discoloration of skin (blackish)	+++++	++

CONCLUSION

Sushruta has described the wound in details and he has also given the sixty measures for the treatment of various types of wounds. By following the principle of wound management as described by Sushruta, we can manage any type of wound. As in case of lipodermatosclerosis, the nature of wound can be compared with *Kaphapitaj Vrana*[8] Bloodletting by *Jalauka* indicated in the *Pitta* predominance. Hence *Jalauka Avcharana* is done in this case along with weight reduction. So lipodermatosclerosis is successfully treated by Ayurvedic principles in this case study.

This rare case is one of best example of magic of Ayurveda.



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Date 30/05/17



Date 15/06/17

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