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A Critical Interpretation on *Jalaukavacharana* (leech therapy) in the Management of *Siragranthi*: A Brief Review Study

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ABSTRACT

Raktamokshana (blood letting) is a *karma(procedure)* requiring the elimination and renovation of *Dushta Rakta*.(vitiated blood) *Non-poisonous Jalauka (anti-poisonous leech)* is used to treat arthritis, artery and venous disorders, cardiac and lung issues with varicose vein ulcers, skin conditions such as psoriasis, eczema, and hypopigmentation spots. *Shira Sankocha, (contractions) Shira Vakra, Shira utsedha(elevation) and Vishoshana(dryness)* are the clinical characteristics of *Siragranthi*. (Varicose vein) Features are beneficial in associated *Siragranthi* with varicose veins. *Raktamokshana* (blood letting) consists of two words: *Rakta* and *Mokshana*, so that *Raktamokshana* (blood letting) ensures that blood is released. Treatment of medicinal leeches for conditions of sickness is termed Hirudo-therapy. Not only does *Jalaukavacharana* (leech therapy) drain blood from the body, but it also injects biologically active compounds that help treat multiple diseases. *Jalauka* (leech) is likely to purify the body by eliminating deeply-seated toxins and pacifying the vitiated *Dosha*.

Keyword: Varicose veins, *Jalaukavacharana*, *Raktamokshana*.



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INTRODUCTION:

The affected vein is called the “*Siragranthi*” because the vein is dilated, elongated and tortuous due to a retrograde blood flow. The typical location for varicose veins is the superficial venous system of the lower limbs, which affects either long saphenous veins or short saphenous veins, or both.¹ Varicose veins of the lower limbs are a punishment for a man's long standing stance. *Sira Sankocha*(contraction) , *Sira Vakrata*, *Sira utsedha*(elevated vein) , *Visoshana* are the clinical features of *Siragranthi* in *Ayurvedic* literature. *Ayurveda*'s literature refers to this state as "*Siragranthi*."It is estimated that the varicose veins affect both men and women. Incompetent valves are the most likely cause, but elevated age, weight, pregnancy and posture are risk factors². Application

of *Jalaukava* (leech) for kings, rich individuals, infants, the elderly, women and disabled people is the most sensitive blood-letting form recommended³.⁴.The first recorded evidence of leeches can be found in *Sushruta Samhita*. In the early 1880s, Hay craft first noticed the antithrombotic effects of leech saliva, and in 1904 Jacoby found an anticoagulant element called Hirudin⁵ *Jalaukavacharana* is known as Leech therapy. *Acharya Sushruta* identified *Agni*(digestive fire) , *Kshara*(alkali) and *Raktamokshana* (blood letting) as *Upayantra* and *Anushastra*⁶ *Jalaukavacharana* (leech therapy) is a form of *Raktamokshana* (blood letting) considered to be one of the most successful methods of removing vitiated *Dosha* from the body without any *Shashtra*.

AIMS & OBJECTIVES

- To evaluate the role of *Jalaukavacharana* (leech therapy) in *Siragranthi* (varicose vein) of lower extremities

MATERIALS AND METHODS:

Materials related to *Siragranthi* (varicose vein) and *Jalaukavacharana* (leech therapy) have been obtained from various journals, *Ayurvedic* and Contemporary Text Books, Authoritative Websites Reputed Newspapers, Authoritative Literatures, Manuscripts, *Sanskrit* Dictionary, etc.

SIRAGRANTHI(varicose vein)

Varicose veins of spider veins can surround. Spider veins are thinner lines of red or purple that occur on the surface of the skin. While they can be unwise and painful, for most people varicose veins don't pose a threat. Many varicose vein signs may be alleviated at home or you should handle them with injections, laser

treatment and surgery through the health care provider⁷.

JALAUKA VACHARANA (leech therapy)

Due to the vitiation of *Vata* and *Pitta Dosha*, *Rakta Dhatu*. *Dushita Rakta dhatu do Sthansamshraya (Localization) in Raktavaha Srotas, (blood channels)* resulting in the signs and symptoms of *Siragranthi*. (*varicose vein*) *Acharya Sushruta* described that vitiated *vata dosha* assimilated either in one part or in one *Dhatu* by making symptoms such as *Shotha*, (*inflammation*) *Shoola* (*pain*), etc. Primary varicose veins occur mostly due to defect in the valves-the defect in the Sapheno-femoral valve leads to varicose vein Long Saphenous vein, the defect in the Sapheno-popliteal valve leads to varicose vein shortness of the saphenous vein and the defect in the perforator valves leads to varicose vein long or short

1. Primary varicose veins arise due to venous obstruction Mechanical causes such as, vaginal tumors and deep vein thrombosis.

Pathogenesis of Siragranthi (varicose vein)

Ayurvedic view-

Vata vitiates Rakta dhatu (blood tissue) due to prolonged walking, etc. and *Shira* (vein) undergoes *Sankochana* (*contraction*), *Sampidana* (*compression*) and *Vishoshana* (*Drying*) triggering *Siragranthi*. (*varicose vein*) The difference of form and scale causes the veins to become *Sankuchit* i.e. the tortuousness of the veins. Even due to *Ruksha Guna* (*dry nature*) the veins turn rough and stiff, eventually the veins appear like a swelling that is painless and non-pulsatile.⁸

Modern view-

During long standing blood column along with gravity strain on the weakened valves of the veins. Forced contraction of the calf muscles can push blood through the perforating veins in the opposite direction. This will enable the destruction of the perforating vein valves and lead to varicose veins.

Jalaukavacharana (leech therapy) –

The entire process is performed in three steps.

Poorva Karma (Pre operative procedure)

1. Preparation of Jalauka (leech therapy)

• Collection of Leeches-

Leech should be extracted from ponds and lakes with the aid of a piece of wet leather.⁹ as defined in *Charak samhita*, *Sharad Ritu* (autumn) is better suited for leech collection.

• Selection of leeches-

Leeches that are *Maha sharira*, *Balavatya*, *Mahashana*, swift blood suckers *Shughrapavinyo* that travel rapidly live in fresh water¹⁰

• Storage of leeches-

Leeches should be placed in a fresh huge pot containing clean water and mud from tanks or ponds. Powder of moss, dried meat and marine tubers can be used for feeding. After 3 days, the water can be adjusted weekly¹¹. Now, for a few days, the leeches are stored in glass bottles or jars with a lid that stops leeches from falling out. Tiny holes should be made in the lid to allow for fresh air. It's harmless to fill the container with water from their natural environments. The water in the bottle can be changed once a week.

• Purification of leech-

Fresh leeches should be separated from the pitcher/tank and a combination of mustard and turmeric paste should be added to them in water. You will observe the passive leeches become extremely active and race around the tray directly after the use of mustard and turmeric paste.¹².

Preparation of Patient

Investigation-

CBC [Complete blood Count]

BT [Bleeding time]

CT [Clotting time]

PT [Prothrombin time]

Part preparation-

The site should be washed with fresh liquid or Haldi (turmeric) water.

Pradhana Karma (MAIN PROCEDURE)

The patient should be able to sit or lie down, and water should be used to disinfect the appropriate

spot. Retain the leeches from the neck and connect to the damaged section directly. It raises its jaw as the leech starts drinking the blood, assuming the appearance of a horse shoe. They should be covered with a wet gauze as the leeches start eating the blood, and cold water should be poured over them from time to time, to calm the leeches when sucking. A small prick can be made at the infected location in the event that they fail to adhere to the target spot if they do not even stick, there should be another one to pursue. The Jaluka (leech) sucks just vitiated blood out of a mixture of vitiated and non-vitiated blood for the first time. It should be inferred that the leech is still sucking pure blood if scraping or itching pain occurs at the site of application. When sucking pure leech blood, it should be removed. If it is not removed, the sucking part of the leech should be sprayed with a limited quantity of turmeric powder or typical salt powder¹³.

Paschata Karma (POST-OPERATIVE CARE)

The site should be washed with regular saline and the

bandaging should be performed after the turmeric powder has been added to the bleeding site. Upon slipping off, the leeches should be made to vomit. This is achieved by adding the turmeric powder to their faces. When the blood comes from the anterior sucker, for proper emesis, gentle squeezing from the caudal to the front end is necessary. If the leech is alive as it is inserted in water, it means that the vomiting is right¹⁴. The leeches used are stored in different jars/pots labelled with patient information. Leech should be used once a week and one leech should be reserved for a single patient to discourage cross-infection.

Sign and Symptoms of *Jalaukavacharana*

- *Vedana Shanti* (relief from pain)
- *Laghuta* (lightness)
- *Vyadhirvega prasamana* (remission of signs and symptoms of disease).
- *Mana Prasadana* (satiates mind).¹⁵

DISCUSSION

Shushruta and *Acharya Vagbhata* had assigned considerable significance to *Jalaukavacharana*, (leech therapy) given the separate chapters of "*Jalaukaavacharniya*¹⁶ and "*Jalaukavidhi*¹⁷. *Jalaukavacharan* (leech therapy) removes blood from the circulation, but also injects biologically active drugs that help to treat various diseases. When leech sucks peripheral blood, it induces negative pressure in the vein present locally and promotes drainage.¹⁸

Mode of action of *Jalauka* (leech)

The mode of action of *Jalauka* (leech) is purification of the body by eliminating deeply-seated toxins and pacifying the vitiated *dosha*. Varicose veins occur due to vitiation of *Vata* and *Pitta dosha*, which results in vitiation of *Rakta dhatu* (blood tissue) and *Sthansamshraya* (Localization) in *Raktavaha Srotas* (blood channels), which triggers signs and symptoms of *Siragranthi* (varicose vein)¹⁹. The secretion of salivary glands of medicinal leech

includes more than one hundred bioactive substances which are responsible for performing the desired medical effect. Essential constituents found in leech saliva are Hirudin, Hyaluronidase, Destabilase, Eglins, Calin, Triptase inhibitor, Hirustatin. Leech saliva contains compounds that anesthetize the wound area, make the leech bite painless to the host and dilate the blood vessels to increase the blood supply to the bite site. Hirudin is a potent anticoagulant that prevents blood coagulation by blocking the conversion of fibrinogen to fibrin.

Hirudotherapy

The emission of the therapeutic leech salivary gland contains more than one hundred bioactive materials which are responsible for performing the desired medical effect. Leech saliva contains substances that anesthetize the wound area, making the leech bite painless to the host and dilate the blood vessels to increase the flow of blood to the bite site.¹⁹ Salivary gland secretions also include anti-inflammatory,

bacteriostatic and analgesic effects²⁰

CONCLUSION:

Jalaukavacharana therapy (leech therapy) is an inexpensive and simple form of bloodletting. It is a convenient *Panchakarma* technique that can be used in a variety of cases. A deeper interpretation of the mode of action of *Jaluka* (leech) has become possible with new forensic methods. Leeches saliva contains numerous active ingredients which help to purify *Rakta dosha*. (blood tissue) There are no side effects of the use of traditional drugs. One of the major therapeutic methods mentioned in Ayurveda for the cure of various diseases is leech therapy. It is

the chief cure, Because of its therapeutic efficacy and leeches, leech treatment has attracted greater popularity internationally for many diseases. They can also be handled and used very effectively. It may also be inferred that Hirudotherapy is used for the care of patients from ancient times and is still alive today.

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