



ROLE OF JALAUKAVCHARAN IN MANEGMENT OF RAYNAUD'S DISEASE

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ABSTRACT:

Raynaud's phenomenon was first described in 1862 by Maurice Raynaud and was described as local asphyxia of the extremities which was a result of increased irritability of the central parts of the cord presiding over vascular innervation. Over a century later the pathophysiology is still not perfectly understood. There are likely numerous factors involved in the pathogenesis of Raynaud's, such as vascular, intravascular, and neural abnormalities, and these factors may differ among those with primary versus secondary Raynaud's. Jalaukavacharana is the ancient technique used for Raktmokshana, here Jalauka means leeches and avacharana means application. Jalauka is one of the tools for Raktmokshana, among Shring, Alabu and Prachhana where Jalauka, Shring, Alabu are used for Pitta, Vata, Kahpa Doshaj Vyadhi respectively. Jalaukavacharana (leech therapy) is a non-surgical type of Raktamokshana and considered as the most unique and effective method of bloodletting.

Keywords *Raktmokshana, Jalaukavacharana, Raynaud's disease*

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INTRODUCTION

In Ayurveda, Sushruta has described the uses of Jalauka (medicinal leech) for the treatment of various medico-surgical disorders. About 700 leech species were identified and among them only 5 leeches are used for medicinal purpose. In Ayurveda, 2 varieties of Jalauka are found i.e. poisonous group (Savisha) and non-poisonous group (Nirvisha) while in modern science, poisonous leech are known as stinging land leeches (*Hemadipsa picta* and *Hemadipsa ornate*) . The species *Hirudo medicinalis* is commonly used for therapeutic purpose which is a Nirvisha Jalauka. During the process of sucking, leeches secrete various biological enzymes in to the blood stream through its saliva. Hirudin is one important component which acts as anti-coagulant. In addition to that several other properties are found in leech saliva like anesthetic, antibiotic, analgesic etc. Therefore it is advised to use in ischemic, inflammatory conditions, skin grafting, chronic fatigue, pain, non-healing ulcers, etc.

Nirukti of Jalayuka (definition of leech)^[1]

Jala- water

Ayu- Life

As they are accustomed to water, they are called *Jalayuka*.

Types of leeches: two types^[2]

1. Poisonous(Non Medicated) -*Krishna, Karbura, Alagardha, Indraudha, Samudrika, Gochandana*
2. Non Poisonous(Medicated) - *Kapila, Pingala, Sankhamuki, Mooshika, Pundareekamuki, Savarika*

Material and methods

All the literature related to *Jaloukavacharana* is collected from classical texts of *Ayurveda* Various research publications and books. Research papers related to Raynaud's disease

And *Jalaukavacharana* ,modern text books of surgery and medicine.

Previous Research Done

1 Conference: *Jalauka* (Medicinal Leeches), its related facts in ayurveda and their effect in Raynaud's disease- A single case report At: japan

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group (*Nirvisha*) while in modern science, poisonous leeches are known as stinging land leeches (*Hemadipsapicta* and *Hemadipsa ornate*). The species *Hirudo medicinalis* is commonly used for therapeutic purpose which is *Nirvisha* Jalauka. During the process of sucking, leeches secrete various biological enzymes into the blood stream through its saliva. Hirudin is one important component which acts as anti-coagulant. In addition to that several other properties are found in leech saliva like anesthetic, antibiotic, analgesic etc. Therefore it is advised to use in ischemic, inflammatory conditions, skin grafting, chronic fatigue, pain, non-healing ulcers etc. In this case report, female patient of 80 years was diagnosed as Raynaud's disease with complaints of gangrenous changes in left digital phalanges (three fingers), swelling in forearms and pain in forearm since 20 days. Three leeches were applied in each digit of gangrenous part. Total three sitting one in every week leeches were applied. After 1st sitting of Jalauka application pain and swelling was got reduced. After second sitting line of demarcation was developed and dried up the necrosed part. Lastly after third sitting all necrosed part was sloughed out without surgical debridement. This single case manifests that gangrenous

digit due to Raynaud's disease can be managed with jalkauka application.

DISCUSSION

Role of Leech Therapy in Modern Medicine:

In modern medicine *Jalaukavacharan* is known as Hirudo Therapy or medicinal leech therapy (MLT). There about 650 leech species, the most frequently used leech is *Hirudo medicinalis* which is collected from freshwater bodies. Therapeutic effect of leech is due to presence of different bioactive constituents in leech saliva. Some major constituents are Hirudin, Hyluronidase, Calin, Destabilase, Apyrase, Eglines, Bdekins, Decorsin, Hirustatin, Lipase, Esterases and Catecholamine like Acetylcholine, Serotonin, Dopamine etc. These bioactive compounds have analgesic anti-inflammatory, Platelet inhibitory, Vasodilator, Thrombolytic, Anesthetic and anti-microbial effects.^[3,4]

Indications of Leech therapy in Modern medicine can be categorized as follows^[6]:

1. Anti-inflammatory action: The contents present in leech saliva blocks steps involving pain by contracting cytokines with anti-inflammatory agents in it. It also suppresses mast cell mediated inflammatory reactions. Leech therapy is effective in conditions like osteoarthritis, abscess, cellulitis, Arthritis, systemic lupus erythematosus, tendonitis, fibromyalgia.

2. Anti-metastatic action: Many researchers delineated the effective usage of leech saliva as an anti-metastatic agent and used in a wide range of malignant tumor cells such as pulmonary carcinoma, osteo-carcinoma, breast carcinoma, leukemia, etc. It also helps in relief of cancer pain.

3. Anti-hyperglycemic Action: A study which is conducted to evaluate the Anti-hyperglycemic activity of leech saliva conclude that Salivary Gland of leeches has anti-hyperglycemic effect against type-I like diabetes mellitus.

4. Anticoagulatory Effect: Leech saliva contains Hirudin which act as Thrombin inhibitory and found useful in Ischemic disease such as Ischemic heart disease, unstable angina, deep vein Thrombosis, postoperative Thrombosis, Peripheral circulation disorders, etc.

5. Leech therapy in Dentistry: Leech therapy is found very useful in Dentistry. Diseases such as Periodontal abscesses, Macroglossia, Oro-dental Fistula, Periodontitis, Gingivitis etc.

6. Leech therapy in Eye and ENT disorders: Leech therapy proved effective in Eye and ENT disorders like Cataract, Glaucoma, Traumatic injuries of eye, Parotitis, Otitis etc.

7. Leech therapy in Reconstructive Surgeries: The primary indication for use of leeches in the field of plastic and Reconstructive Surgeries is to prevent Venous congestion of

Flaps used for soft tissue coverage of defects. Leeches have been used in constructive surgeries like ear, nose, lip and digit replantation, surgeries of maxillofacial region, breast flap (Mammoplasty) etc.

CONCLUSION

Raynaud's phenomenon refers to a condition in which the blood vessels in extremities are narrowed and restrict the blood flow. In this condition, the episodes of attacks affect the fingers and toes. These attacks are triggered from cold conditions and emotional stress. The mechanism of these is attack- during attacks, the small blood vessels in the fingers and toes are constricted in response to temperature of stress and freezes that part.

'in Raynaud's phenomenon, there is blockage in channels within the body known as *siras*. This blockage leads to *suptata* and *stabdhata* which is followed by *dourbalya* and *kashya*. This may lead to decrease in functioning of hands and legs in the long run.

The treatment for Raynaud's phenomenon in *Ayurveda* serves its purpose for reversing the condition in a natural way. *Raktamokshana* is the treatment given in which leeches are used. Further, *seka* of decoctions is done over the affected area, which helps in restoring the blood circulation. *Abhyanga* also helps with this condition. Moreover, to pacify the effects of *Pitta* and *Vata dosha*, proper diet plan and

yoga asanas are suggested. This entire line of treatment helps in reversing Raynaud's phenomenon effectively. Due to *Jalaukavcharana* microcirculation improves as well as symptoms are slowly minimized. Along with *jalaukavcharana*, *Raktapachaka* *yog* and Nervine tonic are play an important role in management of Reynolds disease.

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