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Review Article

### LEECH THERAPY - A MIRACULOUS TREATMENT

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#### ABSTRACT

The first description of Leech therapy was found in Sushruta Samhita ( dating 800 B.C) written by Acharya Sushruta. The therapy was widely indicated in most of the disorders ranging from skin diseases to musculoskeletal pains. Leeches are being used to treat diseases through Raktmokshan, a method where impure blood is removed from body which is being sucked by leech. This traditional method of curing diseases is still thriving today. In ayurveda such kind of therapy can be used in all kind of pitt vikaras. The therapy is equally accepted, tested and widely used in the field of modern medicine and even found the place in microsurgery. Leeches thought “wonder doctors” of science .This therapy is considered as a magical therapy because of its wide range of application in almost all the diseases.

**Keywords:** Leech, Sushrutasamhita, Medicine, Acharya, Ayurveda, Pitt, Raktmokshan.

#### INTRODUCTION

Leeches are very useful in the field of modern medicine. Leeches were very popular in the 19<sup>th</sup> century. They were considered as ‘cure all’ – a miracle treatment that could get rid of most of diseases .Leeches were good for local blood letting when certain part of body need to be bled .Leeches were used for anything from skin disorders to boils and abscesses . There number started to decline at that time because of their popularity. Leeches were used in England, Russia, Scotland, France, Iran, Egypt and Ukraine for treating various diseases . Its reported that in 1846, 30 millions leeches were used in France and 13 million were used in London and paris in just a single year. In America, leech farms were created so that they could produce their own leech and each day, a thousand leeches were sold, showing how in demand these amazing invertebrates were at that time .With passage of time medical people starting discrediting leeches, choosing instead to rely on antibiotics and other medicines and by the end of 19<sup>th</sup> century , the use of leeches faded away. Another reason is as leeches did not match the new requirements of the modern regulations and great advancement in all medical fields<sup>1</sup>. Recently, however leeches once again found their place in the field of medicine. They are used in the field of microsurgery .Plastic surgeons are using leeches to treat

challenging skin grafts and most especially for reconstructive surgery .So once again leeches are gaining their popularity for treating the challenging conditions .

#### HIRUDOTHERAPY IN AYURVEDA

Hirudotherapy has been mentioned in ayurveda under the name of Jalaukavacharan<sup>2</sup>. Jalauka means leech and avacharan means application. Further word jalauka is a compound word with two components Jala means water and ouka means housing place i.e. animals having water as its residing place. According to ayurveda it is considered as one of the procedure of Rakta mokshana. Raktamokshana means blood letting and is described under bio-purificatory procedures .In ayurveda ,according to acharyas the removal of impure blood from body treats the root cause of the disease. Leeches are shital in nature and so used in pittaj vikars . They at first bit sucks only impure blood and left pure blood, so this is a blood purification therapy . Later when it start sucking pure blood, the patient feels pain.

References of jalauka in vedic period is done in atherveda .In kausihka sutra of atherveda references of rakta mokshana by jalauka found .In mahabharat and skanda puran we get the references of word Jalauka. References of jalouka also found in following samhitas – Charak Samhita, Sushrta Samhita, Vagbhatta, Bhavmishra, Sharangdhara, Yograthnakara Chakradutta etc.

## CLASSIFICATION OF LEECHES ACCORDING TO AYURVEDA

- 1) SAVISHA JALOUKA
- 2) NIRVISHA JALOUKA

### SAVISHA JALOUKA;

They are further of six types<sup>3</sup>

- a) Krishna
- b) Karbura
- c) Algarda
- d) Inderyudha
- e) Samudrika
- f) Gochandana

### NIRVISHA JALOUKA;

They are further of six types<sup>4</sup>

- a) Kapila
- b) Pingla
- c) Shankhmukhi
- d) Mooshika
- e) Pundreeka
- f) Savarika

## CLASSICAL INDICATIONS OF JALOUKA

- 1) Viradhi (abscess)
- 2) Gulma(lump)
- 3) Arsha(piles)
- 4) Kustha(skin disorders)
- 5) Vatarakta(sclerosis)
- 6) Granthi(cyst)
- 7) Arbuda(tumour)
- 8) Vidarika(rhagades)
- 9) Visarpa(pemphigus)
- 10) Siroroga(headache)
- 11) Kantharoga(throat disorders)
- 12) Netraroga(eye diseases)
- 13) Dantveshta(dental disorders) et

## OTHER INDICATIONS

Leeches were thought to be able to cure everything from head ache to haemorrhoids. Ancient physician used to treat chronic skin diseases, eye diseases, *musculoskeletal diseases*, gynaecological disorders, *ENT disorders*, *thromboembolic diseases*, local congestive condition, as well as brain congestion and mental illness.

From the above indications it is clearly highlighted that the leeches has wide range of application. This therapy can be used in varied number of disorders. According to ayurveda leeches are sheetal in nature and commonly used in almost all kind of pittaja and raktaj diseases<sup>5</sup>. As the root cause of all these disorders is impure blood in body and leeches remove this impure blood. The important advantage of leech therapy is that it may be advised on those areas of body where other means of blood<sup>6</sup>. letting like vensection not possible. Such wide range of application of leech is possible due to its magical saliva which contain more than hundred bioactive substances. Each content of saliva has its own importance and application

## CONTENTS OF LEECH SALIVA

**Hirudin:** The well known enzyme, a powerful anticoagulant in existence, then heparin

**Bdellin:** A protease inhibitor thus act as anti inflammatory.

**Eglin:** It inhibits inflammation but at same time it is also act as antioxidant.

**Apyrase:** A powerful platelet anti – aggregate factor thus making blood flow more fluid.

**Destabilase:** Enzyme having powerful platelet anti aggregating activity which act by dissolving the blood clots

**Hyaluronidase:** Act as factor for diffusion and as antibiotic.

**Lipase and esterases:** Used for hyper lipidemia.

**Antielastase:** These substances act by limiting action of elastases which degrade cutaneous elastin particularly at the level of skin<sup>7</sup>.

**Vasodilatory Substances:** These substances have not yet been identified but it is very similar to histamine.

There are other important enzymes in the bio-energetic processes such as neuro transmitters, which are secreted by the 34 cerebral nodes distributed along the body of leeches. The leeches also produce catecholamines which act on the nerve terminators, particularly at the level of skin which are dopamine, serotonin and acetylcholine which is so important in leeches that the official method for assaying acetylcholine in tissue is based in a biological method involving the contractility of the leech dorsal region.

So leech has been termed as pharmaceutical manufactory by the scientists and it was in these observations that in 2004 the FDA of US allowed the marketing and growing the leeches for medical purposes<sup>8</sup>.

## CONTRAINDICATION OF LEECH THERAPY

Leech therapy is contraindicated in HIV patients and those who are on immunosuppressive drugs. Therapy put these patients at the risk of bacterial sepsis and thus worsening their condition. Leech therapy is contra indicated in the treatment of certain medical conditions and diseases. These include hemorrhagic diseases, absolute hemophilia, pregnancies, severe anemia, hypotension, general fatigue, allergy to leech, active tuberculosis, mental disorders during acute episode, high temperature, immuno compromised patients, severely ill & bed ridden and in case of extremely fearful patients. According to some Unani physicians, certain sites of the body are also contra indicated for the leech application such as abdomen especially around the liver, spleen, stomach, intestine and buttock. In tropical areas, leech therapy has been prohibited as the site of leech may become infected.<sup>9</sup> Infection is the most common complication of leeching and occurs in 2-36% of the patients<sup>10</sup>.

## DISCUSSION

Once leeches attach themselves to the skin of the patient and start sucking blood, the saliva of leech enters the puncture site and along with it the contents, enzymes and compounds enters into patient blood, working together, they act to cure the diseases present in individual. Anticoagulant agent present in leech saliva makes blood thinner allowing it to flow freely through the vessels. These agents also dissolves clots found in vessels, reducing the risk of travelling the clots to other part of body and blocking artery or vein.

The vasodilating agents help widen the vessel wall by dilating them, and thus causes the blood to flow unimpeded.

Patient suffering from pain and inflammation will feel relief from anti-inflammatory and anaesthetic agent of leech saliva.

In long therapy leech also help to normalize blood pressure of hypertensive individuals as well as lessen their risk of suffering from stroke and heart attack.

Blood circulation also improved with leech therapy and it helps with healing process of wounds as well as wounds and lesions caused by diabetes There is also a noticeable boost in the immune system function due to bacteriostatic agents present in leech saliva.

### CONCLUSION

Leech therapy mentioned in ayurveda is one of the most important therapeutic procedure. This therapy is widely used in ayurveda as well as in modern medicine for treating various challenging medical and surgical conditions. Therapy is of ayurvedic origin but it is equally accepted by modern medicine due to its efficacy in healing various kind of illnesses it is also called as magical therapy.

### REFERENCES

1. Whitaker IS, Rao J, Izadi D, Butler PE. Historical article: *Hirudo medicinalis*: Ancient origins & trends in the use of medicinal leeches throughout history, Br J Oral Maxillofac Surg. 2004; 42: 133-7.
2. AmbikaDattaShastri, editor, Sushruta Samhita of Sushruta Vol-1 Sutra Sthana,, Chapter 13 Re-edition Varanasi Chaukhambha Sanskrit Sansthan p 43.
3. AmbikaDattaShastri ,editor, Sushruta Samhita of Sushruta vol-1 Sutra Sthana,, chapter 13verses 11 re-edition Varanasi chaukhambha Sanskrit Sansthan p 43.
4. Ambika Datta Shastri, editor, Sushruta Samhita of Sushruta vol-1 Sutra Sthana,, chapter 13verses 12 re-edition Varanasi Chaukhambha Sanskrit Sansthan p 43
5. AmbikaDattaShastri ,editor, Sushruta Samhita of Sushruta vol-1 Sutra Sthana,, chapter 13verses 6 re-edition, Varanasi Chaukhambha Sanskrit Sansthan, p 43.
6. Majusi AIA. In ; kamilus Sana kantoori GH, editor vol.2 New delhi : Idara Kitabush Shifa 1889 .pp. 503 -4
7. Tabri R. In: Firdaus al Hikmat. Shah Mohd Adil., translator. Deoband: Faisal publication; 2002. p. 306
8. Munshi Y Ara I, Rafique H, Ahmad Z, Leeching in the history - A review. Pak. J. Biol. Sci., 2008; 11: 1655-3
9. Haycox CL et al. Indications and complications of medicinal leech therapy. American academy of dermatology. 1995; 33(6): 1053–1055.
10. Green PA, Shafritz AB. Medicinal Leech use in microsurgery .J .Hand Surg Am.2010; 35: 1019-21.

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