



## ROLE OF LEECH THERAPY IN THE MANAGEMENT OF VIDRADHI” (AMAVASTHA AND PACHYAMANAVASTHA)

Saxena Varsha\*<sup>1</sup> and Kumar Pradeep<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Shalya Tantra, Sai Ayurvedic Medical P.G College, Aligarh (U.P). Contact no- +919450001505.

<sup>2</sup>Professor, Department of Shalya Tantra, Faculty of Ayurveda, Institute of Medical Sciences Banaras Hindu University, Varanasi (U.P) Contact no – 9319035726.

\*Corresponding Author: Dr. Saxena Varsha

Assistant Professor, Department of Shalya Tantra, Sai Ayurvedic Medical P.G College, Aligarh (U.P). Contact no-+919450001505.

Article Received on 30/08/2017

Article Revised on 20/09/2017

Article Accepted on 11/10/2017

### ABSTRACT

*Ayurveda* a complete system of medicine has its own path of thinking, anatomy, physiology, etiology, clinical assessment, and management. The *Ayurvedic* system of medicine is based on the concept of balancing body *Dos* has. Like other pathological conditions *Vidradhi* has been documented in the *Brihat Trayee*, the *Charaka Samhita*, the *Susruta Samhita* and *Astanga Samgraha*. According to *Sushruta* the extremely deranged *vata*, *pitta* and *kapha* get settled in the *asthi* after vitiating the *Twak*, *Rakta*, *Mamsa*, *Medas* and give rise to deep seated, painful round or extended swelling which is called as *Vidradhi*. *Vidradhi* is compared to abscess in modern medical sciences. Severe pain is the main clinical feature which hampers the daily routine of patient, so the treatment becomes essential. To treat the cases of *Vidradhi*, there are many treatment modalities in medical sciences, but the question is of recurrence and complications. In *Vidradhi* line of treatment is to get relief from pain and inflammation. Fortunately, in *Ayurveda*, there are measures that one can take to avoid scenario. Along with *Mridusamaka* and *Pachana* treatment quickly effective *Raktamokshana* by leech therapy (*Jalaukavacharana*) is said to be the treatment of choice of *Apakwa Vidradhi*. It is minimal invasive operative technique and requires no instrumentation. The procedure may be performed even without anesthesia with minimal stay. In this study randomly selected 15 patients (irrespective of age, sex, religion and economic status) suffering from *Amavastha* and *Pachyamanavastha vidradhi* (irrespective of its site). Leech therapy is an ancient bloodletting technique firstly described in *Ayurveda* by the name of *Jalaukavacharan*. A leech contains various bioactive substances, which have potent anti-inflammatory, analgesic, anaesthetic properties etc. Purpose of this present clinical study is to evaluate the role of leech therapy in *vidradhi* (*Amavastha* and *Pachyamanavastha*) in the light of modern medical science.

**KEYWORDS:** Leech therapy, *Vidradhi*, *Jalaukavacharana*.

### INTRODUCTION

In India *Ayurveda* is not just a system of medicine, it is in habit of everybody in day to day life. *Sushruta* is the real touch bearer of surgical practitioners in the world and people recognizes him as the father of surgery. He has laid down the unique principles regarding the surgical treatment like *ksharakarma*, *Agnikarma*, *Raktamokshan* and *shastra karma*. Among them *raktamokshan* (leech therapy) is one of the most important parasurgical therapies. *Vidradhi* have been occurring as long as existence of life. The earliest reference to *vidradhi* is found in the *Rigveda* in context to war injury.

After that a detail description in including etiology, pathogenesis, variety, character, prognosis and a successful management found in *Samhita* period.

*Charaka samhita* is main text of medical discipline of *Ayurveda*, described all basics of *vidradhi*<sup>[1]</sup> but superficially. In period of *Sushruta*, surgical concepts and surgical practice was at its pick. *Vidradhi* is a topic on which whole surgical practice is depends. There is a very successful management of *vrana* in *Ayurveda* but still there is difficulty a lot and unavoidable. To overcome these difficulties there is no tool still now, Because of this failure a new concept that is prevention come in light. For prevention of *Vidradhi* there must be knowledge of previous stages or pathogenesis. According to *Charak* when vitiated humors enter the *mamsa* and *rakta* of the internal parts of the body, they give rise to a very painful swelling, in the deep regions of the body. *Vagbhata* advocates that *rakta* vitiating causes vitiate *Twak*, *Mamsa*, *Medas*, *Asthi*, *Snayu*, *Rakta*, *Kandaras* and give rise to a deep seated and very painful

circular or extended swelling over these which is termed Vidradhi.<sup>[2]</sup> Whereas according to *Sushruta* the extremely deranged *vata*, *pitta* and *kapha* get settled in the *asthi* after vitiating the *Twak*, *Rakta*, *Mamsa*, *Medas* and give rise to deep seated, painful round or extended swelling which is called as *Vidradhi*.

Hirudotherapy or *Leech therapy* is an ancient bloodletting technique firstly described in *Ayurveda* by the name of *Jalaukavacharan*.<sup>[4]</sup> Ancient history suggests that Lord *Dhanwantari* evolved in this world after *Samudra manthan* with *Jalauka* (Leech) along with pitcher filled nectar in his hand. This shows immense importance of Leech in therapeutics. Bloodletting can be done by *shringa*, *Alabu*, *Jalauka* and *Siravedh*, out of them, *Jalaukavacharan* (Leech Therapy) is the mildest and safest methods used for blood-letting.<sup>[5]</sup> For this reason, it is called the best method of *Raktamokshan*. Nowadays *Jalaukavacharana* or leech therapy has gained greater attention worldwide, because of its medicinal values. Leeches are blood sucking invertebrate belongs to family Annelida. In Sanskrit, it is known as *Jalauka* because of their water-loving nature also they dwell and take their nutrition only from *Jala* (Water).<sup>[6]</sup> A leech contains various bioactive substances, which have potent anti-inflammatory, analgesic, anaesthetic properties etc. In 1884, Haycraft discovered *hirudin* which is the main anti-coagulative substance in leech's saliva.<sup>[7]</sup> Now scientists have discovered about 100 bioactive constituent in leech saliva, still this number increasing day by day.

*Vidradhi* is a clinical condition can be correlated with spreading inflammation of skin & subcutaneous tissue. In modern system of medicine there is no alternative of antibiotic and anti-inflammatory drugs to manage inflammation. In India leeches are easily available in abundance and familiar with every status of society because it is used since period of *Dhanvantari*-Pioneer of *Ayurveda*.

## MATERIAL AND METHODS

The patients were randomly selected from O.P.D. and I.P.D. of *Shalya-Tantra* Department of Rishikul State *Ayurvedic* P.G. College & Hospital, Haridwar on the basis of inclusion and exclusion criteria. Patients were registered on specially designed pro-forma for evaluation.

### Plan of the study

- Preparation of drugs:** - The present clinical study is based on application of *Jalauka* (leech therapy) quoted from *Sushruta samhita* specifically on *vidradhi*.
- Inclusion criteria:** Patients presenting with complaints of *Amavastha* and *Pachyamanavastha* of non-complicating *Bahya vidradhi* were included

irrespective of age, sex, religion, education and socio-economic status.

- Exclusion criteria:** *Asthigatvidradhi*, *Abhyantaravidradhi*, *Pakwavasthajanya-vidradhi*, *GambhiraVidradhi*, chronic illness like Diabetes mellitus, Tuberculosis, hypertension, Anemia, chronic renal failure, liver diseases, cardiac patients and patients of bleeding disorder were excluded.
- Diagnostic criteria:-** Diagnosis was made on local examination on the basis of signs of inflammation like Rubor, Calor, Dolor, Tumor.
- Fitness criteria:** - Patients were declared to be fit that had the value of routine laboratory investigations of blood, urine, stool, radiological as well as physical examination within normal limit.
- Assessment criteria:-**
  - Time taken for healing of *Vidradhi*.
  - Post-operative bleeding from *Vidradhi* site.
  - Chances of recurrence.
  - Over all, usefulness of treatment of this ancient Indian modality over the conventional treatments.

### g) Follow up criteria

#### Follow up-- 3rd day.

After *Jalaukavacharana* (leech therapy), patient were called 3<sup>rd</sup> day to review the case for-

- Progress of treatment
- If any complication present

**h) Improvement criteria:** Measurement of improvement was made by evaluation by perfection in morbidity features in respect to their frequency, severity, and score.

## METHODOLOGY

**Leech application:** - After taking written consent of patient for *jaalaukavachara* (phlebotomy), patient's affected part was cleaned and sterilized with boiled warm water then *Shodhita jalauka* was applied. Then wet sterilized cotton gauze was placed covering the *Jalauka*'s body except head and mouth, once the *Jalauka* attached, it will remain safely in place until fully distended and then detaches spontaneously (30-50 min).<sup>[8]</sup> After that *Jalaukas* were induced to vomit as described in the classics and wound was cleaned with warm water and tight bandaging was done. *Jalaukas* were again applied to the patient.

## OBSERVATION AND RESULTS

In every case initial clinical data along with blood investigations was noted and total numbers of days to cured, total no. of *Jalauka* applied, total no of sitting, also recorded and after cured or improvement again blood investigation were performed and study was done for any changes in symptoms before and after *Jalaukavacharana*.

Table No. 1: Demographic observations of the total registered patients.

Findings	Predominance (Maximum occurrence)	Percentage of data
Age (Years)	41-60	40%
Sex	Female	53.33%
Religion	Hindu	100%
Marital status	Married	73.33%
Socio-economic status	Lower status	53.33%
Occupation	House wife	40.00%
Dietary habits	Mixed diet	60.00%
Deha Prakriti	Pittaja –Kaphaja Prakriti	53.33%
Distribution	Thigh	33.33%
Saar	Madhyama	66.67%
Sanhanan	Madhyama	73.33%

Table No 2: improvement in intensity of pain after leech therapy in patients of *vidradhi* - Intra-group result (by Chi-square test) of BT - FU4.

Intensity of Pain	Leech therapy					Chi-square test (BT - FU4)
	BT	F1	F2	F3	F4	
	No	No	No	No	No	
Severe	4	3	1	0	0	$\chi^2 = 22.00$ P <0.001 HS
Moderate	8	6	2	0	0	
Mild	2	2	6	5	1	
Absent	1	4	6	10	14	
Total	15	15	15	15	15	

Table No 3: improvement in severity of Redness after leech therapy in patients of *vidradhi* - Intra-group result (by Chi-square test) of BT - FU4.

Intensity of redness	Leech therapy					Chi-square test (BT - FU4)
	BT	F1	F2	F3	F4	
	No	No	No	No	No	
Severe	5	2	0	0	0	$\chi^2 = 16.81$ P <0.001 HS
Moderate	7	4	2	1	0	
Mild	3	4	5	4	1	
Absent	0	5	8	10	14	
Total	15	15	15	15	15	

Table No 4: improvement in severity of Heat (temperature) after leech therapy in patients of *vidradhi* - Intra-group result (Chi-square test) of BT - FU4.

Intensity of heat	leech therapy					Chi-square test (BT - FU4)
	BT	F1	F2	F3	F4	
	No	No	No	No	No	
Severe	7	4	1	0	0	$\chi^2 = 16.81$ P <0.001 HS
Moderate	5	3	2	1	0	
Mild	2	5	6	5	1	
Absent	1	3	6	9	14	
Total	15	15	15	15	15	

Table No 5: improvement in severity of swelling after leech therapy in patients of *vidradhi* - Intra-group result (by Chi-square test) of BT - FU4.

Intensity of heat	Group A					Chi-square test (BT - FU4)
	BT	F1	F2	F3	F4	
	No	No	No	No	No	
Severe	5	2	0	0	0	$\chi^2 = 22.94$ P <0.001 HS
Moderate	8	5	2	0	0	
Mild	2	4	4	3	1	
Absent	0	4	9	12	14	
Total	15	15	15	15	15	

Table No 6: Comparison of TLC (Total leucocyte count) before and after leech therapy in *Vidradhi*.

	Before treatment (mean±sd)	After treatment (mean±sd)
Leech therapy	13064.2857 1509.767	7507.1429 1223.780

## DISCUSSION

On the basis of data it is observed that Females (53.33%) were more prone to have *vidradhi*. Maximum number of patients was from low class socio-economic status (53.33%). Housewives (40.00%) were more commonly prone to *vidradhi* followed by service and businessmen. 73.33% patients were married persons. Nearly half number of patients had a history of addiction either smoking or alcoholism. The commonest mode of onset was spontaneous (70.83%). Maximum number of patients had *Pitta-Kaphaj Prakriti* (53.33 %). The commonest site of *Vidradhi* was in lower extremity, especially in thigh (33.33%). Pain was the most common symptom present in *Vidradhi*. Maximum number of leeches had blood sucking capacity on an average between 1 to 4 ml and detachment time is 40-50 minutes. Hemoglobin level is not much affected after leech therapy.

Keen observation from the study revealed that the leech therapy in *Vidradhi* cures the disease with advantages that it can be practiced as an outpatient method. All the credit goes blood anti-coagulant, Anti-inflammatory,

anesthetic, bacteriostatic and bactericidal action of *hirudin* present in saliva of *leech*. *Jalaukavacharana* is considering as *paramsukumar upaya* & need no preparation. In *shastiupakrama*, *vishravana* is indicated for *Vidradhi* in *Ama* and *Pachamana awastha*. *Hirudin* help to subside the inflammatory reaction within the vessels another substance present in saliva of leech is a local anesthetic agent which assist the leech to consume the blood without the knowledge of patients. It reduces the pain for few hours after *Jalaukavacharana*.

#### Mode of action

The vitiated blood blocks the path of *Vata* by which *Vata* is vitiated much and produces different type of pain. After *Jalaukavacharana* the path of the *Vayu* remains unobstructed and thus pacifying *doshas*, it helps in the cure of the disease. It is possibly because of the samana of sannikrutha nidana (*Vayu*). More over *Vayu* is the *chalak Shakti* behind every *Dosa* and *saman* of it helps in the *samprapati vighatana*. Local pain, heat intensity and tenderness immediately wash out in some patients.

#### CONCLUSION

Leech application is very effective on clinical parameter. There is tremendous result in leech therapy. Local pain, tenderness and temperature immediately wash out in some patients. It proves this quotation of Ayurveda (सद्यो राग रुजा शम्). So this is an ideal therapy in *Vidradhi* and had global potential.

**Source of support:** Nil.

**Conflict of interest:** None Declared.

#### REFERENCES

1. K. Shastri and G. N. Chaturvedi. Vidyotini Hindi Commentary on Charak Samhita, Part 1, Sutra Sthana, Chapter 17 verse 1, 1st ed. Chaukhambha Bharati Academy, Varanasi, 2009.
2. Kaviraja Atrideva Gupta. Vidyotini Hindi Commentary on Ashtanga Hridaya, nidana Sthana, Chapter 11, Chaukhambha Prakashan, Varanasi, 2010.
3. Shstri Ambica Dutt, editor. Sushrut Samhita Nidan Sthan 9, vol-1. 14th Edition. Varanasi. Chaukhambha Sanskrit Sansthan; 2003.
4. Shstri Ambica Dutt, editor. Sushrut Samhita Sutra Sthan vol-1. Jalaukavacharaniya adhyaya. Hindi Commentary. 14th Edition. Varanasi. Chaukhambha Sanskrit Sansthan; 2003. p.43.
5. Shstri Ambica Dutt, editor. Sushrut Samhita Sutra Sthan vol-1. Jalaukavacharaniya adhyaya-13/3. Hindi Commentary. 14th Edition. Varanasi. Chaukhambha Sanskrit Sansthan; 2003.p.43.
6. Shstri Ambica Dutt, editor. Sushrut Samhita Sutra Sthan vol-1. Jalaukavacharaniya adhyaya-13/9. Hindi Commentary. 14th Edition. Varanasi. Chaukhambha Sanskrit Sansthan; 2003.p.43.

7. Field WS. The history of leeching and hirudin, Haemostasis, 1991; 21: 3-10.
8. Sharma P.V. Susruta Samhita. Vol. II. Edition. Varanasi. Chaukhambha Bharati Academy. Sushruta Sutra. 2010, 13/15.