

A critical review on Consequence of *Jaloukavacharan* (leech therapy) in clinical practice

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Abstract

Ayurveda has a Holistic concept of Health. Disease free status of the body alone does not mean health. He whose *Doshas* are in balance, appetite is good, all tissues of the body and all natural urges are functioning properly, and whose mind, body and spirit (self) are cheerful or full of bliss, is a healthy person.

Ayurvedic approach to diagnose the illness is very systematic and scientific. *Tridosha* (*Vata*, *Pitta* and *Kapha*) are the three Bio-Energies, which govern the body. The concept of these three Bio-Energies is unique. Balance of *Tridosha* means perfect health, and this is the basic principle of *Ayurveda*. The theory of *Tridosha* - the three bio-energies, is very similar to concepts of immunology and stress. While Acharya sushruta explain rakta as fourth dosha because it maintains life of individual in normal condition. If *Rakta* get vitiated it produce so many disease condition like *Raktapitta*, Epitasis varicose vein skin diseases etc. The *Ayurvedic* approach to Life-style (*Swasth-Vritta*) teaches us the practical rules of behavior that prevents *Dosha* being disturbed results in an illness. In *Ayurveda*, primary attention is given to re-establish or balance the *Dosha*. 'Balance of *Dosha* is Life and imbalance means illness.

Raktamokshana is the main and effective treatment of *Rakta* when it is being vitiated by *Pitta Dosha*. There are *Siravedh*, *Prachhan*, *Jaloukavacharan* etc. methods to do *Raktamokshana*. Among these *Jaloukavacharan* is quite safe, effective, minimal expensive, easy process to do *Raktamokshana*.

Keywords: *Ayurveda* *Raktamokshana*, *Siravedh*, *Prachhan*, *Jaloukavacharan*

Introduction

Ayurveda has discussed principles as well as philosophy of life. It is one of the healing sciences with its main objective to maintain healthy person in healthy and sound condition of the body and soul respectively and to achieve the respective benefits in case of diseased persons.

There is an increasing curiosity and awareness about *Ayurveda* and its various branches not only in India but also through the world. However the, the *Panchakarma* branch attracted whole attention than any other branches in *Ayurveda* and in last decade many *Panchakarma* have been opened all over the world so that the common population also be benefited.

The purification methods of *Panchakarma* are useful to maintain health as well as many diseases related to skin, blood, various systems, etc. the processes like *Snehana*, *Swedana*, *Vamana*, *Virechana Basti*, *Nasya*, *Raktamokshana* etc. has been done under the heading of *Panchakarma* therapy. Among these processes *Raktamokshana* has been done for purification and treatment of diseases related to *Rakta* (blood). *Raktavistravan* is one of the surgical procedures; also called as *Raktamokshan*. It is one of the most effective measures as a half treatment in *Shalya-Tantra*.

Raktamokshana is considered to be one of the *Panchakarma* by *Sushruta*, as he mentioned *Rakta* as the fourth *Dosha* [1] In *Raktamokshana* therapy impure blood is to let out from the body. *Pitta* and *Rakta* are having *Ashrayaashrayee Bhavas*. The main and best *Chikitsa* for *Pittaj Rogas* in *Raktamokshana* is *Jaloukavacharana* [2]. *Jaloukavacharana* is one among the bloodletting therapy which is used in *Atyanta Sukumaras*, *Twak Vikaras*, *Sthanik Rakta Dushti* etc. [3].

Raktamokshan mean letting out blood from the body in order to prevent and cure disease. *Rakta* means blood and *moxan* means letting out the blood. *Jalouka*, *Shrung*, *Aiabu* is used for *Raktavistravan* [4]. '*Raktavistravan*' is also the procedure of bloodletting.

It is very essential to the *Ayurvedic* physician to know about the varieties of *Jalouka* i.e., mainly *Savisha Jalouka* and *Nirvisha Jalouka*, method of application, care about *Jalouka* etc. [5]

The surgical disorder like *Granthi*, *Vidradhi alagi* [*kshudra rog*] etc. mainly arise from *Shopha*. Some of them go to *Pakavastha* and some of them do not develops *Paka* like *Gulma*; *Arbuda*, *Galaganda* etc, these surgical disease needs the operation. Acute *Shopha* is recommended for *Raktavistravan* by *Jalouka* and also in painful deep rooted *Shopha*, *Visham Vrana* and also in *Savish Vrana* i.e. toxic wound. *Vistravan* is one of the *Upakrama* of *Shashthi Upakrama* of *Vrana*. *Shashthi Upakrama* is included in *Sapta Upakrama*. *Avasechan* is one of the *Upakrama* of *Sapta Upakrama*.

Raktavistravan by *jalouka* as *anushatra* is also oriented as *pratishedh*. *Pratishedh* means to prevent the disease or its advancement and further prevents any other major surgical disorder.

'*Jaloukavacharan*' is indicated in *Shishu* [child], *Shastrabhiru*, [those who are contraindicated for *Shatra Karma*] and in *Shastrabhav* [absence of *Shashtra*]. The persons who undergo *Raktamokshan* regularly in *Sharad Rutu* they do not suffer from the diseases like wise, *Twak Dosha* [skin disease-*Kshudraroga*], *Granthi* [various types of cyst], *Shopha*, [swelling] and blood disease.

History of Jaloukavacharan

The use of leeches in *Ayurved* is ancient. There are records of use of leeches for bloodletting in early Greek medicine. In Europe *Hirudinea medicinalis* was commonly used for phlebotomy in olden times, the procedure was called "Lechery". In 1863 about 7million leeches were used in London Hospital and 5 to 6 million used in Paris hospital also. The famous English poet William words worth [1802] wrote a poem "leech Gatherer" based on medicinal use of leech. In the 1980 medicinal leech therapy got a big boost by plastic surgeons that used leeches to relieve venous congestion especially in transplant surgery [6].

In 1985 at Harved University one of the physician was having great difficulty in reattaching the ear of 5 years old child, the tiny veins kept clotting, he decided to use leech while feeding it they injects salivary component which inhibits both the platelet aggregation and coagulation escalade, thus realizing the venous congestion and induces revascularization. So it is effective in plastic surgery [7].

In ancient Greek history, *blood letting* was practiced according to the humoral therapy, which proposed that, when the four humors, blood, phlegm, black and yellow bile in the human body were in balance, good health was guaranteed. An imbalance in the proportions of these humors was believed to be the case of ill health. Records of this theory were found in the Greek philosopher Hipocrate's collection in the 5th century B.C. *Blood letting* using leeches was one method used by physicians to balance the humors and to rid the body of the plethora [8].

The Importance of Leech in Avurveda

God *Dhanvantari* is a *Vaidya* of God. *Shri. Dhanvantari* brought the knowledge of surgery on the earth. In one hand *Shri. Dhanvantari* is holding leech as a para surgical Instrument [9]. *Sushrut* is the Indian surgeon known as God father of surgery. *Sutrashthan* of *Sushrut Samhita* is based on Important laws of surgery. In *Sutrashthan* of 13th chapter name is "*Jalokavacharniya Adhayay*" is full of the scientific knowledge about leech and method of its application.

Leech application is an easiest method of Bloodletting therapy. The diseases which cannot be cured by *Snehan & Swedam* can be cured by bloodletting and also controlled the recurrence. Leech is a para surgical method of bloodletting. The place where surgical instruments are not possible to operate at that place para surgical methods should be used.

Brief Review of Jalouka (Leech)

Jalouka is the one which is born in water, live in water and does its activities like eating, nourishment in water It is one of the *Anushastra* in the twenty types of *Anushastra*, and It is *Pradhan Anushastra* [10]. *Anushatra* is used as that of *Shashtra* and which is not made up of *Lohadi dhatu*.

There are mainly 2 types of *Jalouka*.

1. *Savisha Jalouka* [11].

They are having 6 types, i.e. *Krishna, Karbura, Algarda, Indrayudha, Samudrika* and *Gochandana*.

2. *Nirvisha Jalouka* [12].

They having 6 types, i.e. *Kapila, Pingala, Shankhamukhi, Mushika Pundarikmukhi* and *Savarika*.

Indication of Jalouka [13].

Jalouka is used in *Nrupa* (king), *Aadhya* (rich person), *Balaka*

(child), *Durbal* (weak person), *Nari* (female) and *Sukumar* (delight person) for the *Mokshana* of *Rakta*, which is being vitiated by *Pitta*.

Action of jalouka

Jalouka sucks only capillary and venous blood and is an effective adjuvant therapy in the management of various medico surgical condition and widely used in post-operative complication. After skin grafts leeches sucks the surplus blood from the veins to reconnect naturally, so that the circulation is restored due to its anticoagulant property and prevents blood clotting, it improves macro and micro circulation and clearing blockage, so it is used in microsurgery. Leech injects powerful anesthetic and anti-inflammatory enzymes while sucking the blood, so that patient feels no pain. Sometimes, because of the technical difficulties in forming anastomosis of a vein no attempt is made to reattach a venous supply to a flap at all. This condition is known as venous insufficiency. If this congestion is not cleared up quickly, the blood will clot, arteries that bring necessary nourishment to the tissues will become plugged, and the tissue will die. To prevent it leeches are applied to a congested flap, and a certain amount of excess blood is consumed before the leech falls away. The wound will also continue to bleed for a while due to the anticoagulant *hirudin* in the leech's saliva. The combined effect is to reduce the swelling in the tissues and to promote healing by allowing fresh, oxygenated blood to reach the area [14].

Review of modern literature of leech

Leeches are categorized under the *Hiruda* class. The saliva of leech consists of a special substance which prevents clotting of blood.

(HIRUDIN) means which prevents clotting of blood.

Leeches are of two types-

1. *Hirudo medicinalis (Nirvisha Jalouka Jalauka)*.
2. *Hirudo detrimental (Savisha Jalouka Jalauka)*.

The leech belongs to class of legless, backboneless animals called Annelids or the ringed ones. Of the 130 species of them, the one used in medicine is called *Hirudo medicinalis* [15]. It is being used to let out blood. This will be 6-10 cm or 2-3 inches in length. It has the inherent property of the contracting and expanding itself. The leech will have two suckers, both on its front and back side. The head suckers searches and penetrates, while the tail sucker holds fast to the host. Its colour will be red. It contains transverse marking on its entire body. It stimulates earthworms. Near its suckers it will have eyes of 5 pairs. The skin will have the cells like human beings. Its respiration takes place through skin. Small glands which are innumerable in nature will be present in the longitudinal which helps in its movements of contraction and expansion. Leeches possess nervous system, excretory system and also reproductive system.

Jalouka as live pharmacy

Leech is, no doubt a live pharmacy, because while sucking the blood it discharges certain ingredients through saliva. There contain the following chemicals:-

- a) *Hirudin*- it will be present in its saliva which helps in preventing clotting of blood during its sucking process. The alimentary canal expands during its sucking of blood, to accommodate the same in its alimentary system [16].
- b) *Prasaran*-which destraires minute bacilli.

- c) Sandnyahar- which creates benumness.
d) Himatin- it dissolves the clots in the blood [17].

The nature of *Jalauka* as poisonous and non-poisonous is vividly described in the modern hirudo-therapy. The best leech for the therapeutic purpose is medicinal leech or hirudomedicinalis. The poisonous nature of the leech may be due to the presence of some chemicals in its saliva. Uses of poisonous leech may cause harm to the patients. One research work has been done and proved that whatever the blood sucked by the leech is venous blood. This *Jalaukaavacharana* is very effective in venous thrombosis, cerebral thrombosis etc. So, wherever treatment is necessary according to the *Shastra* and if that patient is contraindicated for that treatment and those who are afraid of surgery, then this *Jalaukaavacharana* should be performed.

Leech as most'delicate instrument

It is use full in Rakta Mokhan or Asra- Visruti. It means out dripping of blood, Leech is applied mainly when pitta is faulty and blood is intensively impure. Severe pain local and pervading swelling, non-healing poisonous wound diseases of blood-circulation and nervous system are some of the ailments, where Leech-application is a better remedy, for child, aged and weak persons, pregnant women Leech application is more useful. It is included in *Panch-Karma* process.

Leech as Anushastra

This is a para- surgical process. It is one of the specialties of ayurved. *Shastra* means sharp instrument. *Anushastra* Though not so sharp acts like it can be used in molestation and Imergencies.

Leech performs various functions like it pierces, Pricks and secretes. Before sucking the blood Leech makes a y-form wound, this wound is pure and quick-healing. No pain or swelling. Neither Antibiotics, nor Anesthesia is required also insicion is much mini mised. Surgical steps are also lessened. The part of the limb remains intact while the ailment disappears. The mark of incision also disappears.

Leech application can be done in various diseases like-

1) *Vranshoth* 2) *Dagdhavran* 3) *Vichchrika* 4) *Kunakh* 5) *Chippa* 6) *Tvakvaivarnya* 7) *Parikartika* 8) *Bhgandar* 9) *Arshbhransh* 10) *Kushta* 11) *Mash* 12) *Medogranthi* 13) *Tarunya Pitika* 14) *Vipadika* 15) *Vidarika* 16) *Agantujvran* 17) *Koth* 18) *Nadivran* 19) *Slipad* 20) *Savranmagna* 21) *Dushtavran* 22) *Saumya Medoburda* 23) *Vishdushta vran* 24) *Martashrit Vranshoth* 25) *Abhishyand* 26) *Shirashul* 27) *Alsak* 28) *Vidrathi* 28) Burger disease 30) *Santhiprantsth Shoth* 31) *Gudadyar vikruti* 32) *Kadar Chednottar Utpanna Vran* 33) *Ksharsutra chedan pashchat utpanna vran* [18].

Jalaukavacharan Vidhi

Jalouka Avacharan means *Raktavistravan* by means of *Jalouka*.

It consists of-

1. Purvakarma

- collection and preservation of leeches,
- examination of patient,
- Shodhana* of leech,
- Preparation of patient.

2. Pradhana karma [19].

The patient must be prepared as already stated. The leeches will too much *Snigdha* and *Picchala* and as result it will slip from the hand. It is better to wear the gloves to hold leech.

Patient for *Jalaukaavacharan* should be in sitting posture or lying down posture. If effected part is woundless, then should be made *Ruksha* by scapping with *Mrita*(soil) or *Gomaya Churna*. Then the leech should be applied by *Haridra* and *Sarspa kalpa* and put into the pot having clear water for some time to known that the leech is free from *Mada*. Then that leech is applied to the affected part of patient. (Su. su. 13/19)

If in the affected part leech doesn't hold or suck, then either milk drop should be applied or a small scratch should be made so as to drain a little drop of blood. If leech doesn't suck by above methods then another leech should be used.

As soon as leech starts sucking the blood, a white cloth or gauze piece should be covered on it, leaving the facial portion. Continuously pour the water drop by drop to keep the leech very cold. The middle portion of leech will be swollen as soon as it starts sucking the blood, it may be noted here that it sucks only impure blood first. If the patient notices pricking pain and itching at the time of sucking pure blood, then it should be removed by pouring *Saindhava Lavana* at its mouth.

3. Paschata Karma [20].

It consists of two main things,

- Jalauka Upachara*
- Atura Upachara*

a) *Jalauka Upachara*- (Su. su. 13/22)

As soon as *Jalauka* is removed from patients affected part, *taila* mixed with *Saindhava Lavana* should be poured on its mouth and on its body, the powder of paddy husk(*tusha* of *Shali*) should be applied by this process it will be easy for *Vaidya* to hold it properly.

With the help of fore finger and thumb of left hand, the tail end of *Jalauka* should be picked up and with right hand forefinger and thumb it should be squeezed towards the head. By this it will vomit the sucked blood. Then put the *Jalauka* in a vessel containing pure water. When the *Jalauka* is moving inside the vessel, it should be noted whether it has vomited all the blood it has sucked. If it is lethargic (*Madayukta*) it should be presumed that it has not yet vomited properly. When the *Jalauka* is not made to vomit the blood either partially or completely, then it may get a disease called '*Indramada*'(Su) or '*Raktamatta*'(A.H.). It may die or it may not be able to suck the blood there after.

b) *Atura Upachara*-(Su. Su 13/23)

When the *Jalauka* is going to suck the blood of an individual, because of the property of an anti-coagulate *Hirudin*, the blood will not clot and thereby it allow sucked blood to get in to the alimentary canal of the *Jalauka* easily.

The *Vaidya* should find out the signs and symptoms of proper bloodletting. As soon as the Leech is removed from the body, *Shataadhouta Ghrita* should be applied on the wound or else *Madhu* should be applied or *Pichu* dipped in *Shataadhouta Ghrita* should be kept on it. Cold application should be made on the wound and bandage should be applied and tied properly or after *Jalauka* detached from the body the wound should be cleaned with *Kashaya* or any one of the *Taila* like *Jatyadi Taila* or *Padmkadi Taila* may be applied.

In case of *Samyaka Yoga*, the abhyanga with *Shataadhouta Ghrita* or *Pichu* should be applied. In case of *Ayoga* by *Jalauka*, the wound must be rubbed with honey so as to make it bleed properly. In case of *Atiyoga*, application of cold water must be employed and tight bandage should be tied.

Points to remember for *Jalauka* application (Su. su. 13/24)

1. Local *Snehana* and *Swedana* are needed before *Jalauka* application.
2. *Jalauka* should be applied in *Pratahakala* (morning hours).
Because in afternoon there will be *Pitta Vriddhi* and in night *Vata Prakopa* will be there, so circulation will be fast and there is chance of *AtiRakta Sravana*.
3. Avoid applying over *Sira*, *Stana*, *Shishna* etc. delicate organs.
4. Up to 2 years use of 1 *Jalauka* and for rest 6-10 *Jalaukas* can be used.

Use of *jaloukacharan* (Leech Therapy) in various conditions

- Leech saliva contains dynamic ingredients with anti-inflammatory, thrombolytic, anti-coagulant and blood- and lymph-circulation enhancing properties. Acute local pain like appendicular colic pain, toxic wound, burns, unbearable headache, boils, fissure, piles, perilous diseases of delicate limbs, perilous moderations like decaying wound, epidemic dig eases, obstructions in the movements of limbs, etc. [21] A specific analgesic material within the leech saliva is yet to be acknowledged. Pain relief from leech therapy is rapid, effective and long-lasting in many conditions.
- Chronic condition occurs in skin-diseases, blood diseases, Rheumatism, Chronic Rheumatism, piles non-healing ulcer, Elephant ties Myopia diabetic foot, varicose vein, Erythema, tumor Malignant growth, Gout etc.
- Preventive remedy- Leeches should be used for local purification in autumn there by seasonal molestations, like skin diseases, Diabetics, Paralysis, Swelling etc. are restricted.
- Sometimes surgery is not preferable, but treatment is necessary. Leeches could be applied here. In post-surgery molestations also, Leech is a sure remedy. In various branches of surgery like, orthopedic, ophthalmic, plastic, Brest, Ano-rectal, E.N.T., Dental, Neuro etc. Leech can be used [22].
- In several diseases like Gangrene, wounds, Swelling, Diabetic molestations Tumors, malignant growth, Fissure, Piles, Thyroid diseases, Abscess, Breast disease, Eye-wounds, Ear-diseases, Rupture, Nerevou-system diseases, Dumbness, Dullness, deafness etc, Leech is a sure remedy.
- Arthritis, Ano-rectal disorders, Fissure in ano, Hemorrhoid's, fistula in ano, Diabetes and Diabetes complication, diabetec foot, Kotha or gangrene, Burn ulcer Appendicitis, Hernia, Neoplastic swelling/Arbuda, Kshudra Roga mainly skin disorders, Ophthalmic disorder, E.NT. Disorders, Dental disorders, Abscess / Vidradhi, Vrana-shotha-inflammation, pain relief in all surgical disorder, cosmetic surgery, Neurological problem Neuro-muscular problem, Orthopedic problem [23, 24].
- In foreign countries, at present Leech-application is prescribed mostly in Gangrene certain chemicals in Leech-

saliva are also useful there in some of the diseases.

- Leech alone is effective in several diseases. Bacterial bodies in blood create diseases. When such impure blood is expelled out of the body, these bacterias are also expelled and blood begins to circulate normally. This is called *Sampraptibhanga* in *Ayurved*. All these various diseases occur due to inflammation. Leech application is the best remedy for it.
- The saliva of the leech consists of anaesthetic agents, anticoagulant, antiplatelet aggregation factor, antibiotic, anti-inflammatory substances, and gelatinous substances. Leeches suck the impure blood, reduce the swelling in the tissues, and promote healing by allowing fresh oxygenated blood to reach the area until regular circulation can be restored. Clinical studies have been conducted in different parts of the humanity to observe the scientific action of leech therapy. Studies with leeches have been carried out to observe the healing of difficult varicose veins, pain reduction in osteoarthritis, and other disorders.

Advantages of *Jaloukacharan*

- No need of O.T. always.
- No need of General or Spinal Anaesthesia.
- No need of Antibiotics, Pain Killer.
- No need of Suturing.
- Pain extinguishes,
- Application of Leeches creates local aesthetic action,
- *Jalouka* has Ability to suck up only impure blood and also from Bottom deeplevel.
- Ability to purify *Doshas*, decreases Swelling, Hastens ripening of swelling
- *Jalouka* has ability for quick transformation of stages and also there is no need of Antibiotics.
- It can be successfully apply as Cosmetic, Para surgical process,

Discussion

Wherever there is contraindication of *Shshtra karma*, *Anushshstras* like *Jalauka* can be used *hiruda medicinalis* (*Nirvisha Jalouka Jalauka*) is mainly used in human beings. Various modes of bloodletting have been devised according to nature of disease, the patient and the predominance of *Doshas*. *Jalauka* are mainly used in *Pitta Dosh* *Vikriti* because *Jalauka* live in cold and fresh water and are *Madhura Rasa Yukta*, so it is applicable for *Pitta Prakriti* individual.

How the hansa bird separates milk from water and drinks only milk, like wise *Jalaukas* sucks impure blood first then pure blood.

Shringa, *Jalauka*, *Prachchhna*, *Alabu* are having localised action, whereas *Siravedha* has generalised. This *Jalauka* can be used in many *Raktaja* disorders by applying it on affected area locally. Not only the hirudin, but also several other enzymes present in saliva possesses anticoagulant activity. The enzymes like hirudin, bdellin, egilin, hementin, collagenase, apyrase, decrosin, hayluronidase and orgelasel etc. it is also having action of vasodilation and anaesthetic.

In a full meal lasting 30 minute, it takes about 15 ml of blood, bloating upto 10 times in its size and when done, simply drops off. The benefits of leech are due to saliva injected into the wound created by it. Whatever the blood sucked by the leech venous as proved in laboratory that, the co2 of blood sucked by leech and of patient's venous blood are observed to be same.

The venous blood is darker and less oxygenated so is the blood sucked by leech.

Once applied the leech should be used again after 7 days. In the condition where leeches should be applied more than once and if leeches are in shortage, then we have to make a hole in tail end of leech and while sucking only, squeeze it towards the tail. *Acharya Sushruta* had advised bloodletting by leeches in surgical disorders. As per the *Ayurvedic* literature *Dosha* are related to blood and hence to interrupt the pathophysiology of the disorders as well as to find out the *Dosha* responsible for the disorder, it is necessary to get rid of vitiated blood. Otherwise life-threatening situations may result. Hence in the therapeutic approach blood-letting is the first line of therapy. In all bloodletting procedures, leech application useful in deep-seated disorders and it is also a harmless procedure, which can be used, even in very weak and sensitive subject. Hence leech therapy was tried out in different stages of disorder.

When impure blood does not let out, the complication occurs such as *Kandu* [Itching], *Shopha* [swelling], *Dah* [burning sensation], *Rag* [redness], *Paak* [supuration] and *Vedana* [pain] occurs. So keeping in mind efficacy and benefits of *Jaloukavacharan* this treatment is really boon to the poor class of society. *Jaloukavacharan* is less expensive; short time treatment; patient's routine activities are not disturbed while this treatment. It is easy going and non-restrictive; only single day hospitalization of the patient is sufficient this treatment can be conducted easily in O.P.D. Pre-surgery arrangement like anesthesia etc. are not necessary. Post surgery medication like costly antibiotics, painkiller is not required. Patient even does not feel that he has gone under a major operation. In gangrene like cases patient has not to suffer the loss of certain limbs as it is prevented from amputation. Leech when applied cuts the skin, no doubt but this cutting is executed easily in very short time no time and without pain. Coming to the conclusion from the above aspects *Jalouka* is the *Anushastra* used in various surgical, medicinal conditions to avoid the fatal, critical condition of disease and to prevent the disease and emergency condition. No side effect and is very economical compare to the modern surgery. Leech saliva has certain medicinal properties. Leech is a live laboratory and Leech-agriculture is already started in foreign countries. In fatal conditions of certain diseases, it is observed that, Leech application performs miracles so foreign Medical field, at present, is just Leech frantic, Really Leech is a boon to medical science.

In short, in surgical emergencies *Jalouka* is a divine boon and life savings, being as a live instrument as it is used.

Conclusion

- *Jaloukavacharana* is adopted mainly in *Pitta Dosha* predominant diseases.
- *Jaloukavacharana* is one of the best *Anushashtra Chikitsa* used mainly in *Rakta PradoshajaVyadhis*.
- Though the action is localised, but it affects whole body by releasing many factors into blood.
- *Jaloukavacharana* is safe as it can be used in communicable diseases due to presence of specific factors in it.
- *Jaloukavacharana* is less time consuming cost effective and easily adopted for patients.
- Leech is one of the most beneficial and delicate treatments. It is very cheap and short procedure without obstructing patient's daily routine.

- Leech application is the best one because it's delicate easily applicable, easily available, quick reliever and purificatory nature.
- Pre-surgery precautions like Anaesthesia, antibiotics are not necessary and also patient can leave the hospital in no time.
- Patient does not ever feel that a major surgery is done with him.
- Leech is a sort of boon in rural areas. It is a best Para surgical and cosmetic instrument.
- In short indigenous Leech in spite of its meagre form is much famous in medical field.

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