

Available online on 15.04.2024 at <http://ajprd.com>

Asian Journal of Pharmaceutical Research and Development

Open Access to Pharmaceutical and Medical Research

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Case Study

A Case study- Jalaukavacharan-Leech Therapyin management of Vranagranthi (Keloid)

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ABSTRACT

Keloid is a type of scar that results from the overgrowth of dense fibrous tissue which is usually develops after healing of a skin injury. In other words, it represents an abnormal scar formation. The tissue extends beyond the borders of the original wound and does not usually regress spontaneously. It causes cosmetic deformity, itching, pain, and stress ultimately resulting in compromised quality of life and diminished functional performance. The treatment of Keloid is often difficult because there is an associated high risk of recurrence. Vrana represents a vast part of *Shalyatantra* and the pathogenesis of Keloid is similar to Vranagranthi which has been explained as a growth of mass at the site of Vrana following dietetic complications or any physical irritation in a Vrana patient. *Jalaukavacharana* (leech therapy) is a parasurgical type of *Raktamokshana* and is considered as the most unique and effective method of bloodletting. Leeches are widely used in most disorders ranging from skin disease with evidence of successful results. In the present paper, an effort has been made to case of keloid that have been conducted in Ayurveda as para surgical procedure.

Keyword: Vran, Vranagranthi, Keloid, Jalaukavacharan, Virudhdahar**ARTICLE INFO:** Received 17 Nov. 2023; Review Complete 13 Jan 2024; Accepted 04 Feb. 2024; Available online 15 April. 2024**Cite this article as:**B.Padvi S, Sharma R K, A Case study- Jalaukavacharan-Leech Therapyin management of Vranagranthi (Keloid), Asian Journal of Pharmaceutical Research and Development. 2024; 12(2):129-133. DOI: <http://dx.doi.org/10.22270/ajprd.v12i2.1377>***Address for Correspondence:**

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INTRODUCTION

Keloids are benign dermal, fibroproliferative growth, characterized by excessive formation of collagen, without any malignant potential. Keloids represent a pathological response to cutaneous injury resulting in disfiguring scars. Skin injuries such as burning, inflammation, surgery, or minor trauma such as insect bite induce an excessive extracellular matrix deposition, especially collagen. The term Keloid is derived from the Greek word, 'khele', which means crab claw.ⁱ Keloids can develop at every age but have a higher incidence between 10 to 30 years.ⁱⁱ Although epidemiologic data are limited, they suggest differences among racial groups with a higher frequency in blacks, Hispanics and Asiansⁱⁱⁱ.

KELOID

Keloid is defined as excessive scar tissue that extends beyond the boundaries of the original incision or wound.^{iv} It continues to grow. Etiology is unknown, but it is associated with elevated levels of growth factor, deeply pigmented skin, familial tendency and certain areas of the body, more common in the midline over the sternum, shoulder, lower neck in front and ear pinna.^v Females have a slightly higher incidence rate than males. The histology of Keloid shows excess collagen; especially more type III collagen with hypervascularity suggesting the pathology occurs in the remodeling phase. Clinically, Keloids extend beyond the boundaries of the original wound and rarely regress over time. They often arise immediately after skin injury and

appear as firm nodules that are pruritic and painful. Itching is severe when exposed to sweat, dust and other allergens. Initially, they have a pink or red appearance and telangiectasia may be present. Keloids interrupt one's quality of life, by having a feeling of being excluded from full social acceptance.

VRANA GRANTHI

Vrana patients should follow a strict Diet regimen even after healing of an ulcer. Vrana granthi is one among the nine granthis explained by *Vagbhatacharya*. When a vrana patient consumes diets that include all the six rasas without any control amid the ulcer has not healed or just healed; or if vranais not bandaged when still moist; or afresh injury by stones etc., there is vata dosha vitiation which affects *raktadhatu* producing Vrana granthi. It is a hard mass associated with burning sensation and itching^{vi}. It is considered as incurable by *Acharya Vagbhata*.

Jalaukavacharan:

As per Ayurveda, *Jalaukavacharanis* one of the procedures of *Raktmokshana*. *Raktmokshana* is the ancient bio-surgical procedure described by *Sushruta*. Ancient history suggests that lord *Dhanwatari* evolved in this world after *Samudra manthan* with *Jalauka* along with a pitcher filled with nectar in its hand. This shows the importance of *Jalauka* in the Indian system of medicine. Since Jala is their life or they are habituated to the water they are called *Jalauka*. *Raktmokshana* is indicated in the treatment of *Rakatajroga*. Individuals with aggravated imbalance between Rakta and Pitta dosha and high levels of toxicity are recommended for *Raktmokshan* therapy. Leech Therapy has been practiced by Ayurvedic Physicians since ancient times.

Leech therapy is widely used in plastic and reconstructive microsurgery as the protective tool against venous congestion. *Raktamokshana* is also used as regimental therapy for the purification of vitiated body humors and should be done in the autumn season. *Raktmokshanais* of two types one is *Shastra Vistravan*: the use of sharp instruments for *Raktmokshana*, including: *Pracchana*: letting the blood pass through several incision and second is *Siravedha* also known as *Venipuncture*, this includes *Jalaukavacharan*, *Alabu* and *Shrunga*. Out of these procedures *Jalaukavacharana* is the safest as no sharp instrument is used in this therefore this can be safely used in delicate people. *Jalauka* is commonly habituated in Jala, so it is cold in nature and commonly used in *Raktaj* and *Pittajroga*.

Indication:

Indication of *Jalaukavacharana* in Ayurveda The specific indications of *Jaloukavacharana* which are mentioned in Ayurvedic text are *Vidradhi* (Abscess), *Gulma* (Abdominal Swelling), *Arsha* (Piles), *Kushta* (Skin Disease), *Vatarakta* (Gout) *Vidarika* (Cracks), *Vishadamsha* (Insect Bite),

As *Jalauka* is indicated in diseases caused by vitiated and *Rakta Pittadosha*, it can be used in *Raktapradoshajvikars* which are described in *sutrasthana* of *Charak Samhita*.

(Hemorrhagic Disorder), *Vaivarnya* (Discoloration of skin), *Agnisada* (loss of appetite), *Pipasa* (excessive thirst), *Tamas Atidarshana* (Frequent Blackout), *Kandu* (Itching) and *TwakaVikara* (Skin disorders).

Complication of Jalaukavacharan :

Here complications of *Jalauka*, after studying various research work some complication which were observed during Leech Therapy are listed below^{vii}

- Prolonged Bleeding time: the most common complication of leech therapy is Prolonged Bleeding time. Leech saliva contains
- Bacterial Infection: The most serious complication is infection at the site of bite. Infection can arise two to seven days after Leech therapy and may present as an abscess or cellulitis, with progression to sepsis possible, this gram-negative bacterium may cause infection.
- Allergic Reaction: Many patients may experience allergic reactions such as Erythema, Edema, Swelling with central black Eschar on biting point and sometimes Ulcerative Necrosis. These allergic reactions are the result of toxins found in Leech Saliva.
- Hypotension and Vasovagal attack: Some patients may experience sudden drop in blood pressure, fainting or severe complications like Vasovagal attack. This can be avoided by proper history taking
- Fever: Fever may be present due to bacterial infection or infected wound.
- Local Pain: Many patients experienced mild dragging pain just after the leech bite which subsided after a few minutes, due to the anesthetic effect of leech saliva. A rhythmic pulling sensation is usually noticed after the start of feeding.
- Itching: Mild itching may be present at the site of bite or a few days.

Aim and Objectives:

To estimate the efficacy of therapeutic procedure.

Materials and Methods:

All the literature related to *Jaloukavacharana* is collected from classical texts of Ayurveda Various research publications and books. After a thorough study of research carried out in the field of *Jaloukavacharana*, the subject matter related to it was compiled and critically analyzed in this study. At Government Akhandanadayurved hospital, Ahmedabad OPD based patient with *Jalaukavacharan* Procedure done.

A case study of Keloids: In a case study a 35-year-old male patient having Keloid on both hands since 8 years, Patient came in opd of Government akhandanand ayurveda hospital, Bhadra, Ahmedabad with complaint of big scar of *vrana* (keloid) over both hands with itching, redness.

Present illness: Pt. was completely healthy before 8 years after that small boil develop over both hands and spread widely over it. Patient had taken levocetizine and soframycine ointment for local application. Now he came here with complaint of big scar of *vrana* (keloid) over both

hands with itching, redness. And want Ayurvedic treatment for further.

Past History: Small Boil like structure over both hands since 8 years.

Family History: Mother: HTN Since 5 Years

Medicine History: NO Any

Surgical History: NO Any

Implantation History: NO Any

Personal History:

Bp: 132/86 mmHg

Pulse Rate: 84/min

Respiration Rate: 14/min

Systemic Examination:

CNS: Conscious

CVS: S1S2 heard

Local examination:

1. By *Darshan Pariksha*: *Twakutsedh* over both hands, Redness present, Large surface area covered.
2. By *Sparshan Pariksha*: Thickness of over growth skin seen, Hard mass like structure feel.
3. By *Prashan Pariksha*: Itching present.

Investigation:

Pre-operative assessment and patient care taken.

Procedure

Purvakarma:

- The following material should be arranged prior to the procedure.i.e, Proper place, Gauze piece, swabs, B.P. Apparatus,kidney tray, Nirvisha Jalauka, Haridra, Tape water, Needle no. 18(if needed), Surgical Gloves
- Temperature – pulse – respiration and blood pressure should be noted prior to *Jalaukavacharan*. Routine blood investigations should be carried out as pre-operative assessment of the patient.
- Patient will advised for taking *snigdha* diet 1-2 hours prior to *Jalukavacharan* procedure.
- Take written consent of patient

Pradhan Karma:

- Patient has been taken in sitting position.
- *Haridra* with tape water has been taken to activate *jalauka*.
- Put *jalauka* on both hand and left it upto *jalauka* remove itself. Approx 30-45 mins.
- *Jalaukavaman* has been done with *haridra* powder.
- Where *jalauka* applied site of disease part cover with *haridra* for anti septic purpose.
- Check for vitals.

Pashchata karma:

- Procedure may repeated after 7 days.

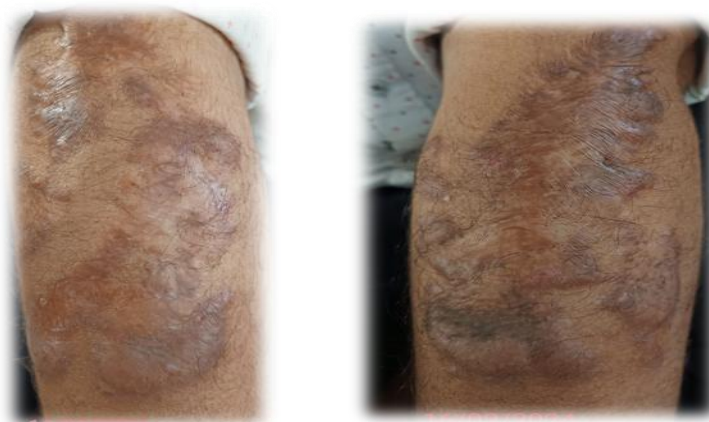


Before treatment

(Source: GAAH, Ahmedabad)



Jalaukavacharan Procedure



After Treatment

Procedure: Done at Government Akhandanad Ayurveda Hospital, Bhadra, Ahmedabad**Treatment**

The treatment of Keloids is difficult and often unsatisfactory. Several treatment modalities have been tried, but most of them have rendered disappointing results, especially when recurrence is concerned. The most commonly used treatments include intralesional steroid injection, interferon, 5fluorouracil, imiquimod and laser therapy. Primary excision and cryosurgery are among the major surgical options. Radiation therapies and other physical modalities such as silicone gel sheeting and pressure therapy are possible alternatives. Among all of these treatment Ayurvedic para surgical procedure with *Jalaukavacharan* give significant and moderate improvement to symptoms of keloid. So, in research work *Jalaukavacharan* with 24 sitting in 6 month, 1 time / week with all normal pre-operative measures and patient care.

For *Samsman* purpose:

1. *Sudarshan Ghanvati*: 2-0-2
2. *Manjisthadi Kwath*: 5gm 2BD/Before Food.
3. *Gandhak Rasayan*-2-0-2
4. Advice to not take *Virudhdha Ahareg*. Milk and salt consumption, *Amla* and *Madhur Rasa* , Equal quality of honey and Ghee, Non-veg diet with Milk.

Clinically, Keloids extend beyond the boundaries of the original wound and rarely regress over time. They often arise immediately after skin injury and appear as firm nodules that are pruritic and painful. Itching is severe when exposed to sweat, dust and other allergens. Initially, they have a pink or red appearance. Keloids interrupt one's quality of life, for having a feeling of being excluded from full social acceptance.

DISCUSSION

In Ayurveda, *Rasa* has a very important role in treatment. The *nidana* of *Vrana granthi* include the consumption of diets of all the six *rasas* which has a major role in its pathogenesis. An evaluation can be made relating the *karma*

of each *rasa* and its effect on the healing of *Vrana*. *Madhura rasa* is *sandhanakara* and *brimhana*, but it is *abhishyandi*. *Amla rasa* causes *paka* by its *agneya* quality and also it vitiates *rakta* and *mamsa*. *Lavana rasa* increases potency of toxic materials, either ingested or metabolic end products in addition to vitiation of *rakta* and *mamsa*. *Katu rasa* cause depression of *Vrana* along with hemolysis and muscle depletion. *Tikta rasa* is *visada*, antitoxic, anti-inflammatory and it reduces pus and moisture. *Kashaya rasa* promotes healing and pacifies *rakta*. It is clear that apart from *tikta rasa* and *kashaya rasa*, other *rasas* harm the healing of *Vrana*. A wise intake of medicine and diet should be planned for proper healing of *Vrana*. So along with other *nidana*, simultaneous consumption of all the *rasa* in an unbalanced quantity hampers the healing process, aggravates *vata* and vitiates *rakta* in addition to the vitiation of *kapha*, *meda* and *mamsa*; which is general in all varieties of *granthi*, and produce *Vrana granthi*. Here the *rakta* vitiation can be regarded as hyper vascularity and vitiation of *meda* and *mamsa* as collagen excess constituting the pathogenesis of Keloid. As keloid is incurable disease by Acharya *Vagbhata*. With para surgical procedure of *Jalaukavacharan* make moderate relief to patient and have 50 % relief in redness, itching and thickness of *vrana granthi*. 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 the maxillofacial region, breast flap (Mammoplasty) etc. In, This study moderate relief to symptoms by *Jalaukavacharan* Procedure. Thickness of scar, Itching, redness reduced.

CONCLUSION

In the current era of dynamic life, people are reluctant to follow wholesome regimes and diets for being healthy. The same is the case of *Vrana* patient who may develop *Vrana granthi*. *Vranagranthi* can be correlated with abnormal scar formation i.e. hypertrophic scars and Keloids; the symptoms being severe in the latter. *Vrana vaikrutapahachikitsa* can be incorporated for the treatment of Keloid considering the unsatisfactory results of modern treatment

practices. Quantitative and qualitative maintenance of *Rakta* (blood) is essential for a healthy life. Leech therapy helps to expel the impure blood from the body. It not only cures many diseases but it also has a preventive role. Moderated

improvement with symptomatic relief seen in the patient. Para surgical Procedure with blood purification purposes fulfilled in the case study.

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