

Therapeutic Efficacy of *Jalookavacharana* (Leech Therapy) in Paediatric *Indralupta* (Alopecia Areata): A Case Report

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ABSTRACT:

Indralupta, correlating with Alopecia Areata in contemporary dermatology, is characterized by localized, non-scarring hair loss resulting from *Kapha-Pitta* vitiation obstructing the hair follicles and *Vata*-induced cessation of hair growth. Para-surgical measures described in *Ayurveda*, particularly *Raktamokshana*, play a significant role in addressing such conditions by removing vitiated doshas from the affected site. This case highlights the use of leech therapy as a stand-alone intervention in pediatric *Indralupta*. In this case report, a 8-year-old female child presented with a 5-cm alopecic patch over the frontal scalp with preserved follicular openings and no erythema or scaling. *Ayurvedic* evaluation suggested deranged *Vata-Pitta* associated with *Srotas* obstruction. Considering the tender age and the need for a safe, minimally invasive procedure, *Jalooka* (medicinal leech) therapy was selected as the primary intervention. *Jalookavacharana* was performed at regular intervals using medicinal leeches applied to the periphery of the alopecic patch to draw vitiated blood and reduce local stagnation. A gentle scalp massage (*Mrdu Abhyanga*) was recommended to enhance local microcirculation. Significant reduction in local inflammation, improved perifollicular circulation, and visible initiation of hair regrowth were observed over the treatment period. By week 4, early vellus hair growth was observed. By week 8, approximately 70–80% terminal hair regrowth had occurred. At week 12, complete cosmetic regrowth was achieved with no recurrence during follow-up. No adverse reactions to *Jalookavacharana* were observed, and the child reported increased confidence. This case suggests that *Jalookavacharana* may serve as an effective, non-pharmacological *Ayurvedic* intervention for pediatric *Indralupta*. The procedure was well tolerated, with no adverse events noted. Broader controlled studies are needed to confirm efficacy and establish standardized protocols.

KEYWORDS: Alopecia Areata, *Indralupta*, *Jalookavacharana*, Leech, *Raktamokshana*.

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INTRODUCTION:

Parasurgical procedures in *Ayurveda* act as a link between surgical and non-surgical therapies, offering minimally invasive, safe and effective clinical options. Among major parasurgical procedures such as *Agnikarma*, *Ksharakarma*, *Siravyadha* and *Raktamokshana*—*Jalookavacharana* (leech application) holds a unique place. The present case is diagnosed to be Alopecia Areata or *Indraluptha* as per the clinical presentation like presence of *Ruksata*, *Khandita Kesa* and localized hair loss.

Alopecia areata is an autoimmune disorder characterized by transient, non-scarring hair loss and preservation of the hair follicle. This leads to hair loss without damaging any hair follicle [1]. The classic presentation of alopecia areata involves isolated, smooth, sudden, nonscarring and patchy hair loss on the scalp or any area with hair growth.

In *Ayurveda*, this is co related to *Indralupta* which comes under *Kshudra Rogas*. As per *Acharya Sushruta*, *Indralupta* is caused due to *Vata* and *Pitta*. The *Pitta* triggered by the *Nidana* penetrates into *Romakoopa* and combines with *Vata* to lose hair. *Kapha Dosha* along with *Rakta* causes obstruction to *Romakoopa* avoiding the growth of new hairs [2].

Due to this obstruction caused, there is a need for *Shodhana* which can be carried out by *Raktamoskhana*.

Jalookavacharana is one of the four types of *Raktamokshana* as per *Acharya Susrutha* particularly indicating for disorders involving vitiated blood

(*Rakta Dushti*) and localized inflammatory conditions. Owing to its minimally invasive nature, it is considered the safest method of *Raktamoksha* especially in *Bala* (children), *Stree* (women) and *Sukumara* (delicate) individuals [3]. Its growing global acceptance reflects its scientifically recognized benefits, including anti-inflammatory, anticoagulant, analgesic, and microcirculatory effects.

Although various internal and external treatments are described in *Ayurveda*, *Raktamokshana*—particularly *Jalookavacharana*—plays a key role when *Pitta* and *Rakta* vitiation dominate the pathology. [4] [5]

CASE REPORT:

The patient is an eight year old female child who came to Shalya Tantra OPD, ITRA Jamnagar with chief complaints of gradual onset of oval patch of hair loss over the scalp for 1 month associated with itching. There is no history of trauma, systemic illness and recent infections. No past history of any drug reaction.

Clinical examination: General examination showed no evidence of pallor, icterus, clubbing, cyanosis or lymphadenopathy. Systemic assessment revealed normal S1 and S2 heart sounds on cardiovascular examination, an alert and well-oriented state on central nervous system evaluation and bilateral clear air entry in the respiratory system. All vital parameters at the time of admission were within normal limits.

Local examination of scalp has been tabulated in Table 01.

Investigations: All the routine haematological, microscopic investigations and complete urine routine were found within normal limits. Serology reports (HIV , HBSAg , HCV , VDRL)were negative.

THERAPEUTIC INTERVENTION:

The treatment was administered over a total period of three months. A total of 12 sittings of *Jalookavacharana* were performed, with each sitting scheduled at 7-day intervals throughout the treatment period.

Method of Jalookavacharana (leech application)

Purva karma

Collection of leech – The leeches were purchased from a vendor and stored in a sterile container. Pure water was taken and filled in a container. Water was changed on every 3rd day and the container was changed on every 7th day. Preparation of patient – The patient was asked to keep the site clean and free from oil application . Harsh shampoo should be avoided prior to *Jalookavacharana* .The site was then made dry by wiping with dry gauze .Patient was made to be in a comfortable position .

Shodhana of leech - The leech were taken out from container and then made active by putting in water mixed with *Haridra Churna* (*Curcuma longa* L.) followed by clean water . If the leech is moving well, its noted to be active . After

this, the *Jalooka* was applied on the affected site.

Pradhana karma

Application of leech – *Jalooka* should be held in gloved hands. Place the mouth of *Jalooka* on the bald patch to get attached . When the leech makes *Ashwakuravadananam* ^[6] (mouth in the shape of a horse's loof and lift its neck) ,it should be understood that leech is sucking blood. Then a wet cotton was kept on top of it .Approximately, 15-20 ml blood is being sucked by one *Jalooka* . Withdrawl of leeches – If the patient complaints of pricking pain, it should be understood that the leech started sucking pure blood and should be removed .

Pashchat karma

Jalooka Vaman – when the leech detaches itself , it should be held and with the help of index finger and thumb of left hand, the tail end of *Jalooka* should be picked up and with right hand index finger and thumb it should be squeezed towards the head. By this it will vomit the sucked blood. Then put the *Jalooka* in a vessel containing pure water. When the *Jalooka* is moving active inside the vessel, it has vomited all the blood it has sucked^[7]. If it is *Madayukta* (lethargic) it should be presumed that it has not yet vomited properly. The *Jalooka* was then transferred to a sterile container with water.

Wound dressing - The blood was then wiped off from local site and *Yashtimadhu Ghrta* applied locally and bandaged.

After care :

The patient was advised not to wash the hair and use any oil or shampoo .

OBSERVATIONS AND RESULT:

The patient demonstrated gradual and progressive clinical improvement throughout the course of *Jalaukavacharana* therapy. Following the first sitting, a noticeable reduction in itching was observed, indicating early

symptomatic relief. The clinical observations are summarized in Table 2, while the progressive changes observed during the treatment are depicted in Figures 1–6 and the follow up images in Figur- 7 and Figure- 8.

Table- 1: Local Examinations

Site of involvement	Frontal region
Pattern	Oval
Number of patches	01
Skin colour	Normal
Discharge	Absent
Sensation	Present

Table- 2: Observations:

After 1st sitting	Reduction in itching
After 4TH sitting	Marginal appearance of fine vellus hair
After 8TH sitting	Noticeable regrowth of pigmented hair
After 11TH sitting	Approx. 80–90% coverage of the patch with healthy hair



Figure 1: Before Treatment

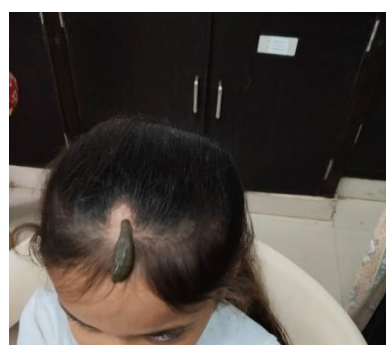


Figure 2: 1st Sitting



Figure 3: 4th Sitting

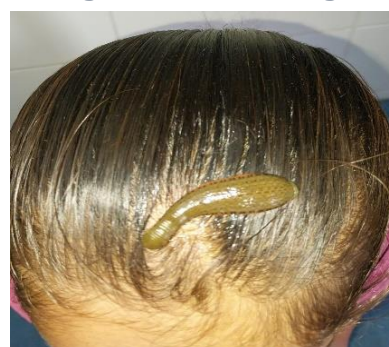


Figure 4: 8th Sitting



Figure 5: 11th Sitting



Figure 6 : After Treatment

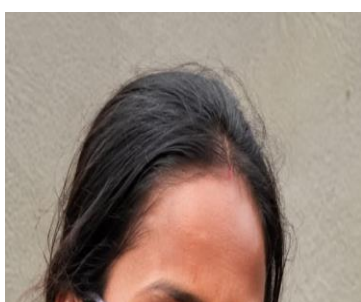


Figure 7: After 6 months

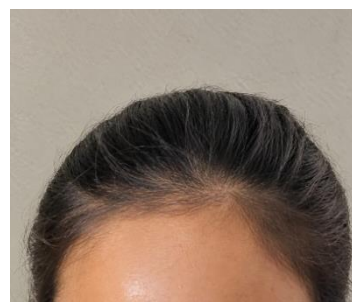


Figure 8: After 1 Year

DISCUSSION:

As the patient was pediatric, painless minimal invasive procedure such as *Jalookavacharana* with *Hirudinaria granulosa* was selected in this case.

Jalookavacharana leads to increase in blood circulation around the area removing the vitiated blood along with nutrient supply to the area resulting in growth of new hairs .

Leech saliva contains several bioactive molecules including vasodilators, analgesics and anaesthetics [8]. During the feeding process, leeches release these active chemicals to the affected area.

The anticoagulant hirudin helps in preventing local blood stagnation, improving the blood circulation and thus nutrition .The term Hirudin is occasionally employed to encompass all bio active compounds present in the saliva of leeches [9]. Bdelins and Eglins , having anti inflammatory properties ,

reduce the perifollicular inflammation around the follicle protecting the hair follicles from immune mediated damage . Histamine like substances and acetyl choline having the vasodilator action , increase blood supply and improves nutrient delivery to the follicle . Hyaluronidase also known as orgelase facilitates the expansion of gaps thus increases the tissue permeability and improve the nourishment [10] .Carboxypeptidase inhibitors possess anti-inflammatory and vasodilatory effects .Factor Xa inhibitor also inhibits the activity of coagulation factor Xa by forming equimolar complexes.

Eventually the bio active molecules present in leech saliva helps information of new hair by increasing scalp microcirculation , improving oxygen and nutrient delivery to hair follicles , enhancing angiogenesis and tissue regeneration. The patient did not have

any complaints till now 1 year after this procedure.

CONCLUSION:

This case demonstrates that *Jalookavacharana* may be an effective and safe therapeutic option for pediatric alopecia. Further studies with large sample sizes and longer follow up periods are required to establish its efficacy and validate the findings.

Patient consent statement:

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient's relative has given her consent for her images and other clinical information to be reported in the journal. The patient understands that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Declaration of Patient consent:

The informed written consent has been taken from patient for publication of data and images without disclosing the identity of patient.

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