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Efficacy of *Jalaukavacharana* (Leech Therapy) in the Management of Chronic Recurrent Furunculosis: A Case Report

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Abstract:

- ***Background:***

Furunculosis is a deep-seated infective disorder of the hair follicle, typically caused by *Staphylococcus aureus*. While conventional medicine relies heavily on antibiotics and surgical incision and drainage, chronic recurrent furunculosis presents a significant clinical challenge due to rising antibiotic resistance (such as MRSA) and high recurrence rates. In Ayurveda, this condition closely mimics *Pidaka*, a condition characterized by vitiation of *Rakta* (blood) and *Pitta doshas*.

- ***Case Presentation:***

A 43-year-old female patient presented to the outpatient department with a one-year history of recurrent, painful, and erythematous nodular lesions. Despite continuous allopathic management for 12 months, the patient experienced frequent relapses.

- ***Intervention and Outcome:***

The patient was managed utilizing *Jalaukavacharana* (Leech therapy), a classical Ayurvedic parasurgical procedure categorized under *Raktamokshana* (bloodletting). Therapy was administered once weekly for two months (8 sessions), alongside dietary and lifestyle modifications. Post-intervention, the patient demonstrated complete resolution of the active lesions, significant reduction in pain and inflammation, and crucially, zero recurrence during the follow-up period.

- ***Conclusion:***

***Jalaukavacharana* offers a highly effective, safe, and minimally invasive alternative for managing chronic recurrent furunculosis, successfully breaking the cycle of recurrence where conventional antibiotic therapies may fail.**

Keywords: *Jalaukavacharana, Hirudotherapy, Recurrent Furunculosis, Raktamokshana, Pidaka, Ayurveda.*

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I. INTRODUCTION

Furunculosis manifests as acute, deep-seated, red, hot, and tender nodules that evolve from localized staphylococcal infections of hair follicles[1]. While a single furuncle is usually self-limiting, recurrent furunculosis involves repeated outbreaks over months or years, significantly impacting a patient's quality of life. The conventional approach involves systemic antibiotics and topical antibacterial agents. However, the rise of Methicillin-resistant *Staphylococcus aureus* (MRSA) and the disruption of normal skin flora make long-term antibiotic use unsustainable and often ineffective in preventing relapses.[2]

In the Ayurvedic paradigm, recurrent skin infections are generally classified under *Kshudra Rogas* or specifically as *Pidaka*[3]. The pathogenesis (*Samprapti*) involves the vitiation of *Tridosha*, with a predominant involvement of *Pitta* and

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Rakta (blood) *Dhatus*[4]. Acharya Sushruta, the pioneer of Ayurvedic surgery, heavily emphasized the role of *Raktamokshana* (bloodletting) in the management of *Rakta-Pradoshaja Vikaras* (blood-borne diseases)[5]. Among the methods of *Raktamokshana, Jalaukavacharana* (application of medicinal leeches) is considered the most gentle (*Param Sukumara*) . Emphasizing its safety and gentle nature, Acharya Sushruta states:

"नृपाढ्यबालस्थविरभीरुदुर्बलनारीणाम् सुकुमारमस्त्रविस्रावणं जलौकोभिः|"

(Sushruta Samhita, Sutra Sthana 13/3)[6]

II. PATIENT INFORMATION AND CLINICAL PRESENTATION

➢ *Demographic Data*

A 43-year-old female patient reported to the OPD of the Ayurvedic College, Patna, seeking management for chronic, recurring boils.

➢ *Chief Complaints & History of Present Illness*

The patient complained of recurrent, painful, purulent, and erythematous swellings primarily located on axilla region for the past one year. She reported that the lesions would swell, become intensely painful, occasionally rupture to discharge pus, and heal with scarring, only for a new lesion to appear nearby a few weeks later.

She had been undergoing allopathic treatment for the entire year, which included multiple courses of broad-spectrum oral antibiotics and topical ointments. While these provided transient symptomatic relief, the recurrence was not halted.

➢ *Medical History*

- Systemic Illnesses: No known history of Diabetes Mellitus, Hypertension, Tuberculosis, or Thyroid dysfunction.
- Surgical History: None
- Family History: Non-contributory

➢ *Clinical Examination*

- General Physical Examination: Vitals were stable. Blood pressure: 120/70 mmHg, Pulse:84 per minute.
- Local Examination: Active, erythematous, indurated, and severely tender nodular swellings measuring approximately 4 cm×3cm×2cm were observed. Surrounding skin showed hyperpigmentation and scarring from previous healed lesions.(Figure 1).

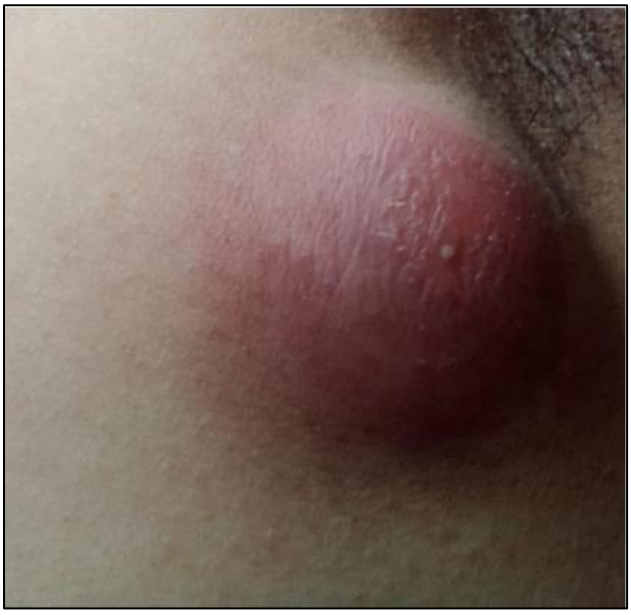

Fig 1 Pre-Treatment Presentation Showing an Active, Erythematous, and Indurated Furuncle.

- *Ashtavidha Pariksha (Ayurvedic Assessment):*

✓ Nadi (Pulse): [e.g., Pitta-Vataja]
✓ Mala (Stool): [e.g., Samyak (Normal)]
✓ Mutra (Urine): [e.g., Samyak]
✓ Jihva (Tongue): [e.g., Alipta (Uncoated)]
✓ Prakriti (Constitution): [e.g., Pitta-Kaphaja]

III. THERAPEUTIC INTERVENTION: METHODOLOGY

Given the chronic nature of the condition and the involvement of *Dushta Rakta* (vitiated blood), *Jalaukavacharana* was selected as the primary line of treatment. The treatment was scheduled for 8 sessions, conducted once a week for two months.

➢ *Purva Karma (Pre-Operative Procedure)*

- Preparation of the Leech: Non-poisonous medicinal leeches (*Hirudo medicinalis*) were utilized. Before application, the leeches were kept in water mixed with a pinch of Haridra (Turmeric powder) for 15–20 minutes to enhance their activity and detoxify them, followed by transfer to clean, fresh water[7].
- Preparation of the Patient: The affected area was thoroughly cleaned with a sterile normal saline solution. No chemical antiseptics were used, as their distinct odor can deter the leech from biting.

➢ *Pradhana Karma (Main Procedure)*

The active leech was applied precisely over the indurated area of the furuncle.(Figure 2) Once the leech attached firmly, assuming a horseshoe shape at its neck, a piece of wet cotton gauze was placed over its body to provide a moist environment. The leech was allowed to suck the blood uninterrupted. It detached spontaneously after 25-30 minutes once it was fully engorged.

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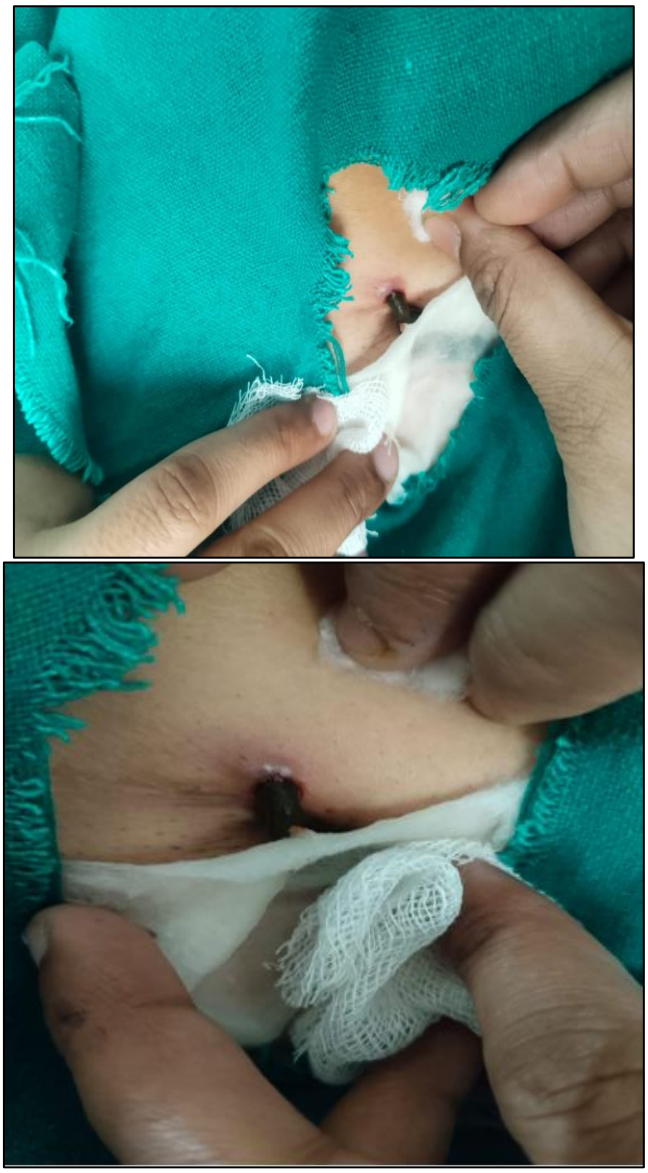

Fig 2 *Pradhana Karma* - Application of the Medicinal Leech (*Hirudo Medicinalis*) Directly Over the Affected Site.

➢ *Paschat Karma (Post-Operative Procedure)*

- For the Leech: To induce emesis (vomiting) of the sucked blood, Haridra powder was sprinkled on the mouth of the leech. The leech was gently squeezed from tail to head to ensure complete expulsion of blood, rendering it ready for future use after quarantine[8].
- For the Patient: The bite site was cleaned, and bleeding was arrested by applying a sterile dressing using Harida Powder.

➢ *Dietary and Lifestyle Modifications (Pathya-Apathya)*

The patient was counseled to maintain strict local hygiene. A *Pitta-shamaka* diet was advised, explicitly instructing her to avoid excessively spicy, sour, fermented, and fried foods.

IV. OBSERVATION AND RESULTS

➢ *The Patient Exhibited a Positive Response Early in the Treatment Course:*

- After 2 Sessions: The intense localized pain and erythema were significantly reduced. The active lesions began to shrink without progressing to massive suppuration.
- After 4 Sessions: Existing nodules had completely subsided. No new lesions were observed.
- After 8 Sessions (Completion of Therapy): Total remission of the active disease state. The local skin tissue began returning to its normal texture, and hyperpigmentation of older scars started fading. (Figure 3).

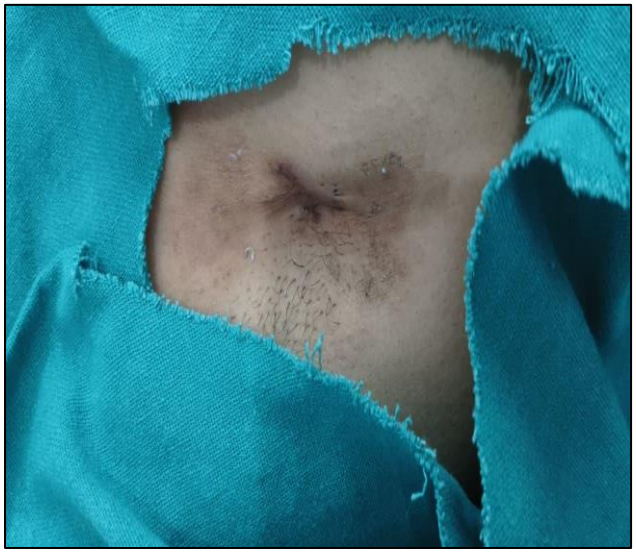

Fig 3 Post-Treatment Clinical Photograph after 8 Weeks of *Jalaukavacharana*, Demonstrating Complete Resolution of the Active Lesion, Healing of the Tissue, and Fading of Localized Hyperpigmentation.

- Follow-up: The patient was monitored for 2 months post-treatment. Crucially, the patient reported zero episodes of recurrence during this entire follow-up period.

V. DISCUSSION

The management of recurrent furunculosis is complicated by the bacteria's ability to form micro-abscesses that antibiotics struggle to penetrate adequately[9].*Jalaukavacharana* provides a multifaceted therapeutic approach to this issue.

From an Ayurvedic perspective, recurrent boils are heavily driven by aggravated *Pitta dosha* vitiating the *Rakta*. Regarding the exact indication for leech therapy, Acharya Sushruta clearly mandates:

"तत्र पित्तदुष्टशोणितमवसेचयेज्जलौकोभिः ।"

(Sushruta Samhita, Sutra Sthana 13/8)[6]

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Modern science validates this process through the biochemical analysis of leech saliva, which contains over 100 bioactive substances[10]. Key components include:

- Hirudin: A potent local anticoagulant that prevents blood clotting, ensuring continuous drainage of infected and congested blood[11.]
- Bdellins and Eglins: These possess strong anti-inflammatory properties that rapidly reduce localized swelling, heat, and pain[12.]
- Hyaluronidase: Known as the "spreading factor," it increases interstitial permeability, allowing the other salivary enzymes to penetrate deeply into the inflamed tissues, breaking down the tough capsule of the boil[13.]
- Destabilase: Exhibits antibacterial properties, directly assisting in neutralizing localized staphylococcal loads[14]

By dramatically improving microcirculation and local immunity, leech therapy allows fresh, oxygenated, and nutrient-rich blood to reach the compromised tissue, facilitating rapid healing and preventing the conditions that lead to recurrence. Recent clinical case studies similarly corroborate the efficacy of *Jalaukavacharana* in successfully managing deep-seated inflammatory skin conditions where conventional topical therapies fall short[15.]

VI. CONCLUSION

This case report highlights the significant therapeutic potential of *Jalaukavacharana* in dermatological conditions that are refractory to conventional allopathic treatments. The weekly application of medicinal leeches over a two-month period not only resolved the active furuncles but also successfully prevented recurrence in a patient who had suffered for a year. *Jalaukavacharana* proves to be a safe, cost-effective, and highly reliable treatment modality for recurrent furunculosis. Further randomized controlled trials on larger sample sizes are warranted to establish standardized protocols for its integration into mainstream dermatological practice.

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