



## Case Study

### LEECH THERAPY AND AYURVEDIC MANAGEMENT IN TREATING ACNE VULGARIS

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#### ABSTRACT

Ayurveda, an ancient system of medicine, offers holistic and long-lasting therapeutic approaches with minimal side effects. Acne vulgaris (*Mukhadushika*) is a common dermatological concern affecting self-esteem and social interactions. This case study highlights the efficacy of leech therapy (*Jaloukaavcharan*) as a bloodletting (*Raktamokshana*) procedure in conjunction with Ayurvedic internal medications (*Shamana Chikitsa*), demonstrating a unique combination approach for acne management. **Case Presentation:** A 22 years old female patient presented with multiple inflammatory papules and pustules on the face, along with erythema and oily skin, consistent with Acne vulgaris. The primary concerns included persistent facial acne resistant to conventional treatments. **Interventions and Outcomes:** The treatment approach included bloodletting through leech therapy and Ayurvedic internal medicines for pacification (*Shamana Chikitsa*). The combined therapy resulted in a significant reduction in acne lesions, improvement in skin texture, and relief from associated symptoms without any adverse effects. **Conclusion:** This case report supports the potential of integrating bloodletting therapy with Ayurvedic interventions for treating acne. The promising results suggest that Ayurvedic therapies, particularly leech therapy, can offer a safe and effective adjuvant in dermatological care, warranting further clinical studies.

#### INTRODUCTION

Acne vulgaris is a chronic inflammatory disorder of the pilosebaceous unit, primarily affecting adolescents and young adults. It is characterized by comedones, papules, pustules, nodules, and cysts, often leading to scarring and psychological distress. Despite being a common dermatological condition, conventional treatments often come with side effects or recurrence.<sup>[1]</sup>

In Ayurveda, acne vulgaris is correlated with *Mukhadushika* or *Yuvanpidika*, which is described as facial eruptions resembling *Shalmali* (*Salmalia malabarica*) thorns, caused by the vitiation of *Kapha*, *Vata*, and *Rakta Dosha*.<sup>[2]</sup> *Acharya Sushruta* classifies it under *Kshudra Roga*, minor diseases that impact

aesthetics rather than systemic health.<sup>[3]</sup> Ayurvedic texts emphasize *Raktamokshana* (bloodletting) as a primary treatment modality, considering blood impurities as a major causative factor.<sup>[4]</sup> *Acharya Charaka*, *Sushruta*, and *Vagbhata* have advocated leech therapy (*Jaloukaavcharan*) for various *Raktaja Vikara* (blood-borne disorders), including *Mukhadushika*.<sup>[5]</sup>

This case is unique as it explores the integration of *Jaloukaavcharan* with internal Ayurvedic medications (*Shamana Chikitsa*) for acne management. While conventional treatments focus on antimicrobial and hormonal therapies, this approach provides a natural, side-effect-free alternative with promising results. The case highlights the relevance of Ayurvedic dermatological principles in modern skincare, warranting further clinical exploration.<sup>[6]</sup>

#### Case Report

##### Patient Information

A 22-year-old female patient presented to the NIA outpatient department (OPD) with complaints of recurrent pustular acne, primarily affecting both

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cheeks and the face. She has been experiencing these symptoms for the past four years, with a recent aggravation since early December 2023. The acne is characterized by pustules, papules, and nodules, accompanied by severe itching, particularly after touching the affected areas, and pus discharge upon scratching. There is no associated pain. Her past medical history includes a fall leading to lower back pain, but she has no history of chronic illnesses such as hypertension, diabetes mellitus, thyroid dysfunction, or autoimmune diseases. She has no known allergies and no relevant family history. Her personal history reveals a vegetarian diet, moderate appetite, irregular sleep patterns, and normal bowel and bladder habits. Her tongue is non-coated, and she has no addictions. As a student, she maintains study hours of approximately 6–8 hours per day.

### Relevant Past Interventions and Outcomes

The patient had been using various topical allopathic medications for acne, but the condition persisted and pustules kept recurring.

### Physical Examination and Clinical Findings

#### General Examination

The patient appeared in good general health, with no signs of systemic illness or distress. No abnormalities detected in vital signs, including temperature, pulse, respiration, and blood pressure.

#### Dermatological Examination

The patient presents with nodulocystic acne, characterized by comedones, inflammatory lesions (papules, pustules), and large nodules (>5mm in diameter). Evident scarring noted, indicative of previous acne lesions and post-inflammatory changes.

#### Inspection

- Multiple papules, pustules, and nodules observed in a typical sebaceous distribution (on face).

- Papules and pustules appear as raised inflammatory lesions, with erythema surrounding the affected areas.

#### Palpation

- Nodular lesions exhibit firm consistency, with some areas of tenderness on palpation.
- Presence of pain on touch, suggestive of active inflammatory response.

#### Acne Severity Assessment

Using the Global Acne Grading System (GAGS), the severity of acne in this case is calculated as 32, indicating severe acne vulgaris.<sup>[7]</sup>

#### Scoring by Affected Regions

The patient exhibits acne involvement on the forehead, right cheek, left cheek, nose, and chin, while no lesions are present on the upper chest and back.

#### Ayurvedic Assessment Scale

- Kandu (Itching):** Occasional itching
- Vedana (Pain):** Pain on touch
- Vivarnta (Discoloration):** Reddish-pink to reddish-brown
- Shotha (Swelling):** Moderate swelling

#### Summary of Findings

- The patient presented with severe acne vulgaris (GAGS score=32), involving multiple areas of the face.
- Nodulocystic lesions with post-inflammatory hyperpigmentation and scarring are observed.
- Ayurvedic assessment indicates moderate itching, pain on touch, and significant erythema with swelling.

These findings align with severe inflammatory acne, necessitating comprehensive dermatological management, including modern and Ayurvedic therapeutic approaches.<sup>[8]</sup>

### Timeline of Clinical Course and Management

Date/Year	Event/Intervention
2021	Patient developed pimples and pustules on her face, which gradually spread over the entire face
2022	She took allopathic medicines for 8 months but discontinued due to lack of relief
2023	Restarted the same medicines; however, the aggravation of acne, continues on her face
5 Dec 2023	Patient visited NIA OPD No. 03 for Ayurvedic management and she got <i>Shaman Aushadhi</i> (palliative therapy)
8 Feb 2024	Admitted to NIA IPD; started on <i>Shaman Chikitsa</i> , along with leech therapy
8 March 2024	Discharged from NIA IPD with significant improvement, and almost all acne lesions were resolved
10 June 2024	Continued <i>Shaman Chikitsa</i> ; readmitted for <i>Shodhana therapy</i> to prevent recurrence of acne



**Picture**







## Diagnostic Assessment

### 1. Diagnostic Methods

#### Laboratory Testing

- **Complete Blood Count (CBC)**– To rule out underlying infections or systemic inflammation.
- **Liver Function Tests (LFTs)**– To assess liver health before initiating certain Ayurvedic therapies.
- **Lipid Profile**– Evaluated due to the possible role of dyslipidemia in acne pathogenesis.
- **Hormonal Profile (Hormonal Profile)**
  - Testosterone, DHEAS, LH/FSH Ratio – To rule out hormonal imbalances (e.g., PCOS-related acne).
  - Thyroid Function Tests (T3, T4, TSH) – To rule out thyroid-related skin changes.

#### Imaging

**Pelvic Ultrasound (USG) (if PCOS suspected):** To assess polycystic ovarian changes.<sup>[9]</sup> In Ultrasound report dated on 11 December 2023, bilateral PCOS was found and both ovaries were enlarged in size with multiple small follicles with echogenic stroma.

### 2. Diagnostic Challenges

- Fluctuating disease course, with episodes of worsening and remission, requiring close monitoring.
- Possible underlying hormonal involvement (e.g., PCOS, androgens), necessitating additional workup.<sup>[10]</sup>
- Scarring and post-inflammatory hyperpigmentation, complicating long-term treatment outcomes.

### 3. Diagnosis & Differential Diagnosis

**Final Diagnosis: Severe Nodulocystic Acne Vulgaris (GAGS Score: 32)**

#### Differential Diagnoses Considered

- **Acne Conglobata:** Ruled out due to absence of draining sinus tracts.
- **Acne Fulminans:** Ruled out as the patient did not exhibit systemic symptoms like fever, malaise, or joint pain.
- **Rosacea:** Ruled out due to lack of persistent erythema, flushing, and absence of ocular involvement.

- **Perioral Dermatitis:** Ruled out as lesions extended beyond perioral region to sebaceous distribution areas.
- **Fungal Folliculitis:** Ruled out due to lack of response to anti-fungal therapy and presence of classical acneiform lesions.
- **Vyanga (Facial Melasma):** Ruled out as there is no presence of painless, hyperpigmented patches and the lesions are more inflammatory in nature.
- **Pidika (Generalized Boils/Furuncles):** Ruled out as the lesions are predominantly confined to sebaceous gland-rich areas and show comedones, unlike localized furuncles with pus accumulation.

### 4. Prognostic Characteristics

The prognosis of *Yuvanpidika (Mukhdushika)* is generally favorable with Ayurvedic interventions, including *Shaman Chikitsa* and leech therapy, showing significant improvement. Planned *Shodhana* therapies, such as detoxification, further enhance long-term outcomes by reducing the risk of recurrence. However, persistent hormonal imbalances or dietary triggers may contribute to relapse, and inadequate management can lead to lasting concerns like scarring and post-inflammatory hyperpigmentation. With a personalized approach involving continued Ayurvedic therapy, dietary modifications, and lifestyle adjustments, sustained remission and improved skin health can be achieved over time.

#### Therapeutic Intervention

##### Types of Therapeutic Intervention

The treatment protocol for acne vulgaris was designed based on Ayurvedic principles, incorporating both *Shaman Chikitsa* (palliative treatment) and *Shodhana Chikitsa* (purification therapy). The interventions included:

##### Pharmacologic (*Shaman Chikitsa*)

- Herbal medications for internal use.
- Topical applications to alleviate symptoms.

##### Shodhana Chikitsa – Bloodletting Therapy

- Leech therapy (*Jalaukavacharana*) for detoxification.<sup>[11]</sup>

##### Preventive

- Dietary and lifestyle modifications to prevent recurrence.



## Administration of Therapeutic Intervention

### Shaman Chikitsa (Palliative Treatment)

Medicine	Dose	Interval	Duration	Anupana (Vehicle)
M Liv Syrup	10 mL	BD BF	15 days	Water
<i>Kaishore Guggulu</i>	250 mg	BD BF	15 days	Water
<i>Panchatikta Ghrita Guggulu</i>	250 mg	BD BF	15 days	Water
<i>Triphala Churna</i>	3 gm	HS AF	15 days	Lukewarm water
<i>Kutaki Churna</i>	0.5 gm	HS AF	15 days	Lukewarm water
<i>Panchnimba Churna</i>	2 gm	BD AF	15 days	Water
<i>Rasmanikya</i>	125 mg	BD AF	15 days	Water
<i>Arogyavardhini Vati</i>	250 mg	BD AF	15 days	Water
Tab Purodil	1 tab	BD AF	15 days	Water
Cap Amod Skin Care	1 cap	BD AF	15 days	Water

**For local application:** Clarina ointment 3–4 times a day

### Shodhana Chikitsa (Detoxification Therapy- Jalaukavacharana)

In the preoperative phase, leeches were activated by immersing them in water mixed with *Haridra Churna*<sup>[12]</sup>, ensuring their optimal effectiveness for bloodletting. The patient was instructed to wash the face thoroughly with lukewarm water (*Ushanodaka Prakshalana*) to cleanse the skin and open the pores, enhancing the efficacy of the procedure. After washing, the face was dried completely before proceeding with the intervention.

During the procedure, bloodletting was performed using 3–4 leeches applied directly to the affected areas. Each leech extracted approximately 40–50 ml of blood, facilitating the removal of vitiated *Dosha* from the localized site. A wet cotton pad was placed over the application site to promote proper attachment and enhance the bloodletting process.

For post-procedure care, *Madhuyashti Churna* was applied to the bite wounds to prevent secondary bleeding and promote faster healing. Gauze pads were placed over the site and left overnight to ensure proper wound protection. Additionally, the leeches were cleaned using *Haridra Churna* to induce vomiting and

eliminate any ingested impurities before being stored in fresh water for future use.

### Follow-up and Outcomes

#### Clinician- and Patient-Assessed Outcomes

- The severity of clinical symptoms was assessed using a local score formula (factor × grade [0–4]).
- Initial severity score was 32, indicating moderate-to-severe acne vulgaris.

### Intervention Adherence and Tolerability, and Follow-up Progression

The patient demonstrated strong adherence to the prescribed Ayurvedic regimen, following the treatment plan without significant deviations. Tolerability assessments indicated no major complaints of discomfort or intolerance to herbal medications. Post-leech therapy, mild itching was reported but subsided within 24 hours without the need for additional intervention. No major adverse reactions or unanticipated events were observed, and minimal discomfort during the leech therapy was effectively managed with soothing herbal applications. Importantly, no secondary infections were noted at the leech application sites.

### Follow-up Progression Table

Follow-up Day	Observations
Day 7	Mild relief in pain, burning, and itching; moderate relief in nodules; marked relief in pus discharge and swelling.
Day 14	Complete relief in pain, burning sensation, and itching; significant reduction in pustules; some papules remained.
Day 21	Acne severity score reduced to 10; no active pustules; only healed scars remained; continued treatment for further improvement.

### First Follow up



### Second Follow up



### Third Follow up



**Fourth Follow up**



**Fifth Follow up**



**Sixth Follow up**





## Seventh Follow up



## Eighth Follow up



## DISCUSSION

*Acharya Vagbhata* emphasized that when vitiated blood is present in deeper tissues, bloodletting through leech therapy is the preferred approach, as it pacifies *Pitta Dosha* without aggravation.<sup>[13]</sup> This aligns with the principles applied in this case, where leech therapy was used to purify the blood and accelerate skin healing.

The combination of *Shaman Chikitsa* (palliative therapy) and *Shodhana Chikitsa* (purification therapy) provided both symptomatic relief and long-term benefits. *Jalaukavacharana* effectively reduced inflammation and promoted wound healing, addressing the root cause of *Rakta Dushti*. The intervention was safe, well-tolerated, and resulted in significant clinical improvement. However, this study was conducted on a single patient, limiting its generalizability. Additionally, no direct comparison with other treatment modalities, such as allopathic acne therapies, was made. The long-term recurrence rate remains uncertain and requires extended follow-up.

### Discussion of Relevant Medical Literature

*Acharya* in Ayurveda have extensively described *Raktamokshana* (bloodletting) as an

effective therapy for *Kushtha* (skin disorders) and other *Raktaja Vikara* (blood-borne diseases).

*Acharya Sushruta*, known as the father of surgery, emphasized *Jalaukavacharana* (leech therapy) as the safest and most effective form of bloodletting, particularly for *Pitta* and *Rakta Dushti* conditions, which are often implicated in *Yuvanpidika* (acne vulgaris). *Acharya Charaka* also highlighted the importance of blood purification in skin diseases and recommended *Raktamokshana* as a primary *Shodhana* therapy. *Acharya Vagbhata* reinforced these views, stating that controlled bloodletting helps remove vitiated blood, reducing inflammation and promoting skin health.

Modern research aligns with these classical Ayurvedic principles, indicating that leech therapy possesses anti-inflammatory, analgesic, and antimicrobial properties, making it beneficial in acne management. Although direct comparative studies with contemporary treatments are limited, existing evidence suggests that *Jalaukavacharana* can serve as an effective complementary therapy, addressing the root cause of acne while promoting long-term skin health as per Ayurvedic wisdom.

## CONCLUSION

The case study highlights the efficacy of Ayurvedic interventions, particularly the combination of *Shaman Chikitsa* and *Shodhana Chikitsa* (leech therapy), in the management of acne vulgaris. Given the nature of the acne, leech therapy considered as a potential treatment option. The combination of these two demonstrated a marked improvement in acne vulgaris. Leech therapy played a pivotal role in detoxification and healing without adverse effects. This approach provides a promising alternative in dermatology, reinforcing the relevance of Ayurveda in modern skin care. The patient experienced significant symptomatic relief without adverse effects, highlighting the efficacy and safety of Ayurvedic interventions in dermatological conditions.

## Patient Perspective

The patient reported significant relief from symptoms and was satisfied with the treatment outcome. They expressed a preference for Ayurvedic management due to the minimal side effects and holistic healing process. The patient noted an overall improvement in skin texture and quality of life.

## Informed Consent

Written informed consent was obtained from the patient before initiating treatment, including consent for documentation and publication of this case study while maintaining confidentiality.

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