

JALAUKAVACHARANA IN THE MANAGEMENT OF THROMBOSED EXTERNAL HAEMORRHOID: A CASE REPORT

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Article Received on 12 Aug. 2026,
Article Revised on 31 Aug. 2026,
Article Published on 1 Sept. 2026,

<https://doi.org/10.5281/zenodo.22266477>

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How to cite this Article: Dr. Monali J. Nalawade*, Dr. R. H. Amilkanthawar *. (2026). Jalaukavacharana in the Management of Thrombosed External Haemorrhoid: A Case Report. World Journal of Pharmaceutical Research, 15(17), 1602–1614. This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: Thrombosed external haemorrhoid is a common anorectal emergency characterized by acute pain and perianal swelling due to thrombosis within the external haemorrhoidal venous plexus. Conventional management includes analgesics, stool softeners, and surgical excision in selected cases. *Jalaukavacharana* (medicinal leech therapy), a type of *Raktamokshana* described in *Ayurveda*, has been traditionally used for conditions involving *Rakta Dushti*, inflammation, and localized vascular congestion. **Case Presentation:** A 36-year-old male presented with severe pain, perianal swelling, and constipation for 15 days. Clinical examination revealed a thrombosed external haemorrhoid. The patient was treated with three sittings of *Jalaukavacharana* using two medicinal leeches

along with Syrup Cremaffin and Tablet Zerodol-SP. Weekly follow-up was conducted for 14 days. **Results:** Reduction in pain and local congestion was observed immediately after the first sitting. Marked reduction in swelling was noted within 7 days. By day 14, the patient reported significant symptomatic relief with improved bowel habits and no complications. **Conclusion:** *Jalaukavacharana* may be an effective, safe, and minimally invasive treatment option in thrombosed external haemorrhoid.

KEYWORDS: *Jalaukavacharana*, *Raktamokshana*, Leech Therapy, Thrombosed External Haemorrhoid, *Arsha*.

INTRODUCTION

Haemorrhoids are vascular cushions of the anal canal that contribute to continence. They represent a common anorectal condition affecting a significant proportion of the population

across all socioeconomic groups.^[1] External haemorrhoids arise below the dentate line and may become thrombosed due to rupture of a perianal vein and subsequent clot formation. Thrombosed external haemorrhoids commonly present with acute severe pain, tenderness, and perianal swelling, significantly affecting the quality of life.^[2]

The pathogenesis of thrombosed external haemorrhoids involves engorgement of haemorrhoidal vessels with acute swelling, allowing blood to pool and subsequently clot. This leads to the formation of an acutely thrombosed external haemorrhoid with a characteristic bluish-purple discoloration accompanied by severe incapacitating pain. The condition is often precipitated by high venous pressure, straining during defecation, chronic constipation, pregnancy, obesity, and prolonged sitting.^[3]

In *Ayurveda*, thrombosed external haemorrhoids can be correlated with *Rakta-pradhana Bahya Arsha*. *Arsha* is considered one of the *Ashtamahagada* (eight major diseases) and is characterized as *Dirghakalanubandhi* (chronic) and *Duschikitsya* (difficult to cure). The *doshic* involvement includes *Rakta* along with *Mamsa dhatu* at the *Rakthavaha Dhamanis of Guda*, which forms as *Mamsa Ankura*. *Acharya Sushruta* has advocated *Raktamokshana* as an important treatment modality for disorders involving vitiated blood.^[4] Among various methods of bloodletting, *Jalaukavacharana* is preferred in delicate and inflamed areas because it is gentle, precise, and minimally traumatic. *Sushruta* considered *Raktamokshana* as the best procedure because it eliminates all three vitiated *Doshas* viz. *Vata*, *Pitta*, and *Kapha*.^[5]

Medicinal leech saliva contains over 100 biologically active substances such as hirudin, calin, hyaluronidase, destabilase, bdellins, eglins, and complement inhibitors.^[6] These compounds possess anticoagulant, thrombolytic, anti-inflammatory, analgesic, and vasodilatory properties. Hirudin, the most studied component, is a potent thrombin inhibitor that prevents blood clot formation.^[7] Hyaluronidase enhances tissue permeability, while calin acts as a vasodilator.^[8] These pharmacological actions support the use of *Jalaukavacharana* in thrombosed external haemorrhoids by relieving venous pooling of blood and dissolving clotted blood.^[9]

The present case report highlights the clinical efficacy of *Jalaukavacharana* in the management of thrombosed external haemorrhoid.

Case Presentation

Patient Information

A 36-year-old male patient presented to the *Shalya Tantra* Outpatient Department with complaints of severe pain in the perianal region and a palpable swelling near the anal verge for 15 days. The patient reported that the pain was excruciating in nature, aggravated while sitting, walking, and during defecation. He also complained of constipation with hard stools and a sensation of incomplete evacuation.

History of Presenting Complaint

The patient was apparently normal 15 days prior to presentation. He then developed sudden-onset severe pain in the perianal region associated with a localized swelling. The pain progressively worsened over the following days. The patient reported difficulty in sitting and performing routine activities. He experienced significant pain during defecation, which led to voluntary avoidance of bowel movements, further exacerbating his constipation. There was no history of bleeding per rectum, fever, or discharge from the swelling.

Past Medical and Surgical History

The patient had no significant past medical history. He denied any history of hypertension, diabetes mellitus, tuberculosis, or other chronic illnesses. There was no history of prior surgical interventions. He had no known drug allergies.

Personal and Social History

The patient was a non-smoker and did not consume alcohol. He reported a sedentary lifestyle with prolonged sitting hours due to his occupation as a software professional. His dietary habits included low fiber intake with preference for processed and spicy foods. He had a history of chronic constipation for the past two years, which he managed intermittently with over-the-counter laxatives.

Clinical Examination

General Examination: The patient was afebrile with a pulse rate of 78 beats per minute, regular rhythm. Blood pressure was 130/80 mmHg in the supine position. Respiratory rate was 16 breaths per minute. The patient appeared anxious and in distress due to pain.

Local Examination: Inspection of the perianal region revealed a single, well-defined, bluish-purple swelling approximately 1.5 cm in diameter at the anal verge in the right

posterolateral position. The swelling was tender on palpation, firm in consistency, and non-fluctuant. There was no evidence of discharge, ulceration, or surrounding cellulitis. Digital rectal examination revealed normal sphincter tone without any palpable internal haemorrhoids or masses. No bleeding was noted on the examining glove.

Systemic Examination: Cardiovascular, respiratory, abdominal, and neurological examinations were within normal limits.

Diagnosis

Based on the clinical presentation and physical examination findings, a diagnosis of thrombosed external haemorrhoid was made. The condition was correlated with *Rakta-pradhana Bahya Arsha* in *Ayurvedic* terms.

Differential Diagnosis

The differential diagnoses considered included:

- Perianal abscess
- Anal fissure with sentinel tag
- Thrombosed internal haemorrhoid with prolapse
- Perianal haematoma
- Fournier's gangrene (excluded due to absence of systemic signs and skin necrosis).

METHODS

Treatment Rationale

The patient presented 15 days after symptom onset, which is beyond the conventional 48-72 hour window for surgical excision recommended for thrombosed external haemorrhoids.^[10] Conservative management was therefore considered appropriate. The treatment plan included *Jalaukavacharana* (medicinal leech therapy) as the primary intervention, combined with supportive oral medications. The rationale for selecting *Jalaukavacharana* was based on its thrombolytic, anti-inflammatory, and analgesic properties, which are particularly relevant in the management of thrombosed haemorrhoids.^[11]

Leech Selection and Preparation

Two healthy medicinal leeches (*Hirudo medicinalis*) were procured from a certified leech bank. The leeches were starved for 24 hours prior to the procedure to ensure effective blood

suction. Each leech was examined for vitality and absence of any visible abnormalities. The leeches were washed thoroughly with sterile distilled water to remove any contaminants.

Procedure: *Jalaukavacharana*

The procedure was performed in a sterile outpatient setting following standard aseptic precautions. The steps were as follows:

- 1. Informed Consent:** Written informed consent was obtained from the patient after explaining the procedure, its benefits, and potential risks.
- 2. Preparation of the Site:** The perianal area was cleaned with normal saline. No antiseptic solutions were used at the site of leech application to avoid deterring the leech from feeding.
- 3. Leech Application:** A sterile glass test tube was used to transfer the leech to the thrombosed haemorrhoidal mass. The leech was allowed to attach to the most congested and tender area of the swelling. The leech was observed until it securely attached and began feeding.
- 4. Monitoring:** The patient was monitored throughout the procedure. The leech was allowed to feed until it became fully engorged and detached spontaneously, which typically took 30-45 minutes. The average blood withdrawal per leech was approximately 5-10 mL.
- 5. Post-feeding Care:** After detachment, the site was cleaned with normal saline. A sterile cotton pad was applied with mild pressure to control any oozing. The used leech was disposed of in a 10% formalin solution as per biomedical waste management protocols.
- 6. Frequency:** The procedure was repeated on three occasions at intervals of 3 days (Day 0, Day 3, and Day 6). Two leeches were applied per sitting.

Concomitant Medications

In addition to *Jalaukavacharana*, the patient received:

- **Syrup Cremaffin** (liquid paraffin and milk of magnesia): 15 mL at bedtime for 14 days to relieve constipation and soften stools.
- **Tablet Zerodol-SP** (aceclofenac, paracetamol, and serratiopeptidase): One tablet twice daily for 5 days for analgesia and anti-inflammatory effect.

Dietary and Lifestyle Advice

The patient was advised to:

- Increase dietary fiber intake through fruits, vegetables, and whole grains
- Maintain adequate hydration (2-3 litres of water daily)

- Avoid straining during defecation
- Take warm sitz baths twice daily for 15 minutes
- Avoid prolonged sitting and incorporate light physical activity.

Follow-up Assessment

The patient was followed up weekly for 14 days (Day 7 and Day 14). Assessment parameters included.

- Pain intensity using a Visual Analogue Scale (VAS) (0-10)
- Size of the swelling measured using a calibrated scale
- Local tenderness
- Bowel habits
- Any adverse effects or complications.

RESULTS

Day 0 (Baseline)

At presentation, the patient reported severe pain with a VAS score of 8/10. The perianal swelling measured approximately 1.5 cm in diameter with a bluish-purple discoloration. The swelling was exquisitely tender on palpation. The patient had not passed stool for two days due to fear of pain.

Day 1 (Post-first sitting)

Immediately after the first *Jalaukavacharana* sitting, the patient reported a noticeable reduction in pain intensity (VAS: 5/10). Local congestion appeared reduced, and the bluish discoloration had diminished. There was no bleeding or adverse reaction at the application site. The patient was able to sit with less discomfort.

Day 3 (Before second sitting)

The swelling had reduced to approximately 1.2 cm in diameter. Pain had further decreased (VAS: 4/10). The patient had passed stool with moderate discomfort after taking Syrup Cremaffin. The second sitting of *Jalaukavacharana* was performed, and two leeches were applied.

Day 6 (Before third sitting)

Marked reduction in swelling was observed, measuring approximately 0.8 cm in diameter. The discoloration had changed from bluish-purple to a lighter hue. Pain was significantly

reduced (VAS: 3/10). Tenderness was minimal. The third sitting of *Jalaukavacharana* was performed.

Day 7 (First follow-up)

The swelling had reduced to approximately 0.5 cm in diameter. Pain was minimal (VAS: 2/10), occurring only during defecation. The patient reported improved bowel habits with regular, soft stool passage. There was no evidence of infection, excessive bleeding, or other complications at the application site. The patient was able to resume normal sitting and walking.

Day 14 (Second follow-up)

Complete resolution of the perianal swelling was observed. The patient reported being pain-free (VAS: 0/10) with normal bowel habits. No recurrence of symptoms was noted. The patient expressed satisfaction with the treatment and had returned to normal daily activities.

Summary of Outcomes.

Parameter	Baseline	Day 7	Day 14
Pain (VAS 0-10)	8/10	2/10	0/10
Swelling (diameter)	1.5 cm	0.5 cm	Complete resolution
Tenderness	Severe	Mild	Absent
Bowel habits	Constipated	Improved	Normal
Sitting ability	Severely restricted	Partially possible	Normal

Adverse Effects

No adverse effects were observed during or after the procedure. There was no evidence of infection, allergic reaction, excessive bleeding, or anaemia. The patient did not report any local irritation or discomfort at the application site beyond the expected mild oozing that resolved with pressure application.

DISCUSSION

Thrombosed external haemorrhoid is a common anorectal emergency that presents with acute pain and perianal swelling. The conventional management approach includes conservative measures such as stool softeners, analgesics, warm sitz baths, and dietary modifications, with surgical excision recommended within 48-72 hours of symptom onset for rapid pain relief.^[12] However, when patients present late, as in this case (15 days after symptom onset), conservative management becomes the preferred approach.

A systematic review and meta-analysis comparing operative versus nonoperative treatment of thrombosed external haemorrhoids found that surgical treatment was associated with a lower risk of recurrence compared to conservative management (RR 0.49; 95% CI 0.26-0.91). However, no significant differences were observed in bleeding risk between the groups.^[13] This highlights the need for effective conservative alternatives, particularly for patients who present outside the surgical window or who prefer non-invasive approaches.

Jalaukavacharana, or medicinal leech therapy, has been described in *Ayurvedic* texts as an effective treatment for conditions involving vitiated blood and inflammation. *Acharya Sushruta*, the father of surgery, included *Raktamokshana* among the four curative measures for the management of *Arsha* (haemorrhoids), the others being *Bheshaja* (medicines), *Kshara Karma* (caustic therapy), *Agni Karma* (cauterization), and *Shastra Karma* (surgery).^[4] Among the various methods of *Raktamokshana*, *Jalaukavacharana* is considered ideal for delicate and inflamed areas because it is gentle, precise, and minimally traumatic.^[5]

The therapeutic efficacy of *Jalaukavacharana* is attributed to the bioactive compounds present in leech saliva. Hirudin, the most potent thrombin inhibitor known, prevents blood coagulation and promotes thrombolysis.^[7] This is particularly relevant in thrombosed external haemorrhoids, where clot formation within the haemorrhoidal venous plexus is the primary pathology. By dissolving the clotted blood, *Jalaukavacharana* helps re-establish circulation and reduce venous congestion.

Other bioactive compounds contribute to the overall therapeutic effect. Calin acts as a potent vasodilator, improving local blood flow.^[8] Hyaluronidase enhances tissue permeability, facilitating the diffusion of other therapeutic substances.^[6] Eglins and bdellins possess anti-inflammatory properties by inhibiting proteases involved in the inflammatory cascade.^[9] These compounds collectively exert anticoagulant, thrombolytic, anti-inflammatory, analgesic, and vasodilatory effects.

The anti-inflammatory and analgesic properties of leech saliva are particularly valuable in the management of thrombosed external haemorrhoids, where inflammation and pain are the predominant symptoms. Studies have demonstrated that leech saliva extract decreases the production of pro-inflammatory cytokines by activated macrophages.^[14] Additionally, the mechanical effect of blood withdrawal reduces local venous pressure and congestion, providing immediate symptomatic relief.

In the present case, the patient experienced significant improvement after the first sitting of *Jalaukavacharana*, with pain reduction from VAS 8/10 to 5/10. This immediate relief can be attributed to both the pharmacological effects of leech saliva and the mechanical reduction of venous congestion. The progressive reduction in swelling and pain over subsequent sittings reflects the cumulative therapeutic effect of the treatment.

Several case studies have reported similar positive outcomes with *Jalaukavacharana* in thrombosed haemorrhoids. Rakhy and Sreenath reported successful management of thrombosed external haemorrhoids in a 65-year-old female patient using *Jalaukavacharana*, with marked reduction in pain and swelling.^[15] Pithore and Kedar demonstrated the efficacy of *Jalaukavacharana* in prolapsed thrombosed haemorrhoids, noting thrombolytic action and re-establishment of circulation.^[11] Divya Sravani and Vijaya Bhaskara Reddy documented reduction in mass, pain, and bleeding per rectum following leech therapy in thrombosed piles.^[16]

The safety profile of *Jalaukavacharana* is well established when performed under sterile conditions by trained practitioners. The most common complication is infection, particularly with *Aeromonas* species, which are commensals in the leech gut.^[17] This risk can be minimized by using sterile, laboratory-reared leeches and maintaining aseptic technique. Other potential complications include excessive bleeding, allergic reactions, and anaemia, which are rare with appropriate patient selection and monitoring.

In 2004, the FDA approved hirudotherapy as a medical device, recognizing its utility in venous congestion and reconstructive surgery.^[18] This regulatory approval underscores the acceptance of leech therapy in modern medical practice for specific indications. The application of *Jalaukavacharana* in thrombosed external haemorrhoids represents an extension of this evidence-based use to anorectal conditions.

The integration of *Ayurvedic* principles with modern understanding of leech biology provides a comprehensive framework for understanding the mechanism of action of *Jalaukavacharana*. The *Ayurvedic* concept of *Raktamokshana* as a method of eliminating vitiated blood (*Rakta Dushti*) aligns with the modern understanding of removing congested, thrombosed blood from the affected area. The *Sheetha* (cooling) and *Madhura* (sweet) properties attributed to leeches in *Ayurveda* correspond to their anti-inflammatory and soothing effects observed clinically.

The present case has several strengths. The diagnosis of thrombosed external haemorrhoid was made based on clinical examination by an experienced practitioner. The treatment was administered in a standardized manner with clear documentation of the procedure. Follow-up assessments were conducted at regular intervals with objective outcome measures.

However, there are limitations that should be acknowledged. As a single case report, the findings cannot be generalized to the broader population. There was no control group for comparison, and the patient received concomitant medications (Syrup Cremaffin and Tablet Zerodol-SP) along with *Jalaukavacharana*, making it difficult to attribute all improvement solely to leech therapy. Additionally, long-term follow-up was limited to 14 days, and recurrence rates beyond this period were not assessed.

Future research should focus on conducting randomized controlled trials comparing *Jalaukavacharana* with standard conservative management and surgical excision for thrombosed external haemorrhoids. Such studies should include larger sample sizes, longer follow-up periods, and objective outcome measures such as ultrasound or magnetic resonance imaging to assess clot resolution. Standardization of the procedure, including the number of leeches, frequency of sittings, and duration of treatment, would facilitate comparison across studies.

The cost-effectiveness of *Jalaukavacharana* is another important consideration. The procedure is relatively inexpensive, can be performed in an outpatient setting, and does not require specialized surgical equipment. This makes it particularly suitable for resource-limited settings where surgical facilities may not be readily available.

Patient acceptance is also noteworthy. The patient in the present case reported satisfaction with the treatment and expressed willingness to recommend it to others. The minimally invasive nature of the procedure, combined with the absence of significant side effects, contributed to patient compliance and positive treatment experience.

CONCLUSION

This case report demonstrates that *Jalaukavacharana* (medicinal leech therapy) may be an effective, safe, and minimally invasive treatment option for thrombosed external haemorrhoid, particularly in patients presenting beyond the conventional surgical window. The patient experienced significant reduction in pain and swelling after three sittings of leech

therapy, with complete resolution of symptoms by day 14. The therapeutic effects can be attributed to the thrombolytic, anti-inflammatory, analgesic, and vasodilatory properties of bioactive compounds present in leech saliva, including hirudin, calin, hyaluronidase, bdellins, and eglins.

Jalaukavacharana offers several advantages over conventional treatments, including its minimally invasive nature, cost-effectiveness, outpatient applicability, and favorable safety profile when performed under sterile conditions. The integration of this ancient *Ayurvedic* procedure with modern medical practice represents a promising approach to managing thrombosed external haemorrhoids.

However, larger randomized controlled trials are needed to establish the efficacy and safety of *Jalaukavacharana* compared to standard treatments. Future research should also explore optimal treatment protocols, including the number of sittings, frequency of application, and long-term outcomes. Despite these limitations, the present case adds to the growing body of evidence supporting the use of *Jalaukavacharana* in anorectal conditions and highlights the potential of integrating traditional medical knowledge with contemporary healthcare practices.



Before *Jalaukavacharana*.



***Jalauka* Applied.**



During Jalaukavacharana.



After Jalaukavacharana.

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