

CLINICAL DYNAMICS OF VRANA SHOPHA: A COMPARATIVE ANALYSIS OF ACUTE INFLAMMATORY SWELLING WITH SPECIAL REFERENCE TO UPNAH (LEPAN CHIKITSA) WITH A CASE STUDY OF DARUHARIDRA RASANJAN LEPA IN VRANA SHOPHA**Dr. Lokesh Kumar Tamta*¹, Dr. Ranjit Singh², Dr. Bhoomi Soni³**¹P.G. Scholar, Department of Shalya Tantra, Quadra Institute of Ayurveda, Roorkee.²Guide & HOD, Department of Shalya Tantra, Quadra Institute of Ayurveda, Roorkee.³Associate Professor, Department of Shalya Tantra, Quadra Institute of Ayurveda, Roorkee.***Corresponding Author: Dr. Lokesh Kumar Tamta**

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ABSTRACT

In Shalya Tantra, Vrana Shopha represents the prodromal, inflammatory stage that precedes the formation of a literal wound (Vrana). Often correlated with acute inflammatory swelling in contemporary medicine, it serves as a critical window for intervention to prevent suppuration (Paka). This article explores the Ayurvedic pathogenesis, the symptomatic progression through the *Shad Vidha Kriya Kala*, and the therapeutic efficacy of topical interventions like *Upnaha* and *Lepana*. *Sushruta* defines Vrana Shopha as a localized swelling that remains confined to a specific area and has the potential to culminate in a wound if not managed.^[1] From a modern lens, this corresponds to the body's innate response to tissue injury—be it mechanical, chemical, or microbial—characterized by the classic "Cardinal Signs of Inflammation": *Rubor* (Redness), *Calor* (Heat), *Tumor* (Swelling), *Dolor* (Pain), and *Functio Laesa* (Loss of function).

KEYWORDS: *Vrana Shopha*, Acute Inflammation, Pathogenesis, *Samprapti*, *Shat Kriya Kala*, *Ama Avastha*, *Pachyaman Avastha*, *Pakva Avastha*, *Srotas-Sanga*, Edema, Cellulitis, Suppuration, Abscess, *Lepana*, *Upnaha*, Transdermal Drug Delivery, *Saptavidha Upakrama*, *Vimlapana*, *Pachana*, *Patana*, *Toda*, *Daha*, *Utseda*, Clinical Fluctuation, *Shalya Tantra*, Inflammatory Mediators.

INTRODUCTION

Acharya Sushruta, the father of surgery, defines *Vrana Shopha* as a localized, elevated swelling involving the skin and deeper tissues.

सैकदेशोत्थिता ग्रन्थिरहिता च शोफ इत्युच्यते |^[1]

"A localized swelling that is not a glandular cyst (granthi) is called Shopha."

In modern clinical terms, this represents Acute Inflammation, characterized by the body's vascular and cellular response to injury.^[1]

Pathophysiology (Samprapti)

The pathogenesis of Vrana Shopha follows a systematic involvement of the *Doshas* (*Vata*, *Pitta*, *Kapha*) and *Dushyas* (Tissues like *Rakta* and *Mamsa*).

1. Nidana Sevana: Exposure to trauma, infection, or spicy/irritant foods.
2. Doshya Prakopa: Vata becomes aggravated and pushes Pitta and Kapha into the *Rakta Vaha Srotas* (blood channels).
3. Sanga: The vitiated Doshas get stuck in the skin and flesh (*Twak* and *Mamsa*).
4. Utseda: This obstruction leads to localized swelling or *Shopha*.^[2]

Three Stages of Progression

Stage	Sanskrit Name	Clinical Features	Correlation
Stage 1	Ama	Mild pain, skin color is normal, cold to touch, slight swelling.	Early Inflammation
Stage 2	Pachyaman	Intense burning (Daha), pricking pain (Toda), reddish-discoloration.	Suppurative Stage
Stage 3	Pakva	Pain subsides, skin wrinkles, fluctuation (pitting) felt on pressure.	Abscess Formation

Based on Dosha Dominance

The symptoms vary significantly depending on which Dosha is "leading" the inflammation^[3]:

- Vataja Shophā: Reddish-black, thin, rough, with "shifting" or pricking pain.
- Pittaja Shophā: Rapidly spreading, yellowish-red, extreme heat, and burning sensation.
- Kaphaja Shophā: Pale or white, heavy, hard, cold, and itchy.
- Sannipataja: Mixed features of all three; often more severe and chronic.

Modern Correlation: Acute Inflammation

In contemporary medicine, this is recognized as Acute Inflammation—the immediate and early response of living tissue to local injury. It is characterized by the five cardinal signs:

1. Rubor (Redness/Rakta-varnata)
2. Calor (Heat/Ushma)
3. Tumor (Swelling/Shophā)
4. Dolor (Pain/Shoola)
5. Functio Laesa (Loss of function/Karma-hani).^[4]

Pathophysiology (Samprapti vs. Pathogenesis)

A. The Ayurvedic View: Shat Kriya Kala

The development of Vrana Shophā follows the six stages of disease progression (*Shat Kriya Kala*). For a Shalya scholar, the stages of *Sanchaya* (accumulation), *Prakopa* (vitiation), and *Prasara* (spread) happen rapidly due to *Abhighata* (trauma) or *Nidana Sevana* (dietary errors).

1. Sthanasansraya: The vitiated Doshas (Vata, Pitta, Kapha) migrate and get lodged in the *Dushyas* (specifically *Twak*, *Rakta*, and *Mamsa*).
2. Vyakti: The swelling becomes visible.
3. Srotas Involvement: The *Raktavaha* and *Mamsavaha Srotas* experience *Sanga* (obstruction), leading to localized accumulation of fluids and Doshas.

B. The Modern View: Vascular and Cellular Events

Acute inflammation involves two main phases.

1. Vascular Phase: Initial transient vasoconstriction followed by persistent vasodilation. This increases blood flow (redness) and capillary permeability, allowing fluid to leak into the interstitial space (edema/swelling).
2. Cellular Phase: Leukocytes (Neutrophils) migrate to the site of injury via chemotaxis to engulf pathogens (phagocytosis).

Topical Therapeutics: Lepana and Upnaha

In the *Ama* (early) stage, the goal is *Vimlapana* (resolution). If the swelling is destined for pus, the goal shifts to *Pachana* (ripening).

A. Lepana (External Application of Pastes)

Lepana is the primary line of defense in acute swelling.

तत्र प्रलेपः आद्य उपक्रमः | > (*Sushruta Samhita, Sutra Sthana 18/4*)

"Lepana is the foremost among the seven treatments of Vrana."

Types and Impacts

- **Pralepa (Cold/Thin):** Indicated for *Pitta* and *Rakta* disorders. It acts as a refrigerant, causing vasoconstriction and reducing heat (*Daha*).
- **Pradeha (Warm/Thick):** Indicated for *Vata* and *Kapha*. It improves blood circulation and helps in the resolution of hard swellings.

Mechanism of Action

1. **Thermal Regulation:** Evaporation of moisture from the paste cools the skin.
2. **Transdermal Absorption:** The medicinal principles (alkaloids/glycosides) enter through the *Romakupa* (hair follicles) and reach the *Siramukha* (capillary ends).^[5]

B. Upnaha (Medicinal Poultice)

Upnaha involves applying a warm medicinal paste, covering it with leaves (like *Eranda* or *Arka*), and bandaging it.

The "Greenhouse Effect"

By covering the paste with a leaf, we prevent the evaporation of heat and moisture. This creates a localized increase in temperature.

- **Impact on Vata:** The warmth and oiliness (*Snigdha*) pacify Vata, reducing pricking pain.
- **Impact on Blood Flow:** It induces vasodilation in deeper tissues, encouraging the body to reabsorb the inflammatory exudate or hastening the collection of pus into a single pocket (ripening).^[6]

◆ DARUHARIDRA RASANJAN LEPA

Sushruta Samhita specifies the use of *Daruharidra* and *Rasanjana* for their *Amapachana* (digesting toxins) and *Vilayana* (resolving swelling) properties.

दावी च रसान्जनं चैव कपित्थत्वङ्महत्यपि |

लेपः प्रदेहो दातव्यः शोफनिर्वापणो हि सः ||^[7]

— *Sushruta Samhita, Sutra Sthana, 18/11*

Dāvīm ca rasāñjanaṃ caiva kapitthatvaṅ-mahatyapi |

Lepaḥ pradeho dātavyaḥ śophanirvāpaṇo hi saḥ ||

A thick paste (*Pradeha*) made of *Daruharidra* *Rasanjana*, should be applied to the affected area. This

formulation acts to effectively cool and resolve the inflammatory swelling (*Shopha*).

Rasa Panchaka

Ingredient	Rasa	Guna	Virya	Vipaka	Action on Shopha
<i>Daruharidra</i>	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Lekhana (Scraping/Reducing mass)
<i>Rasanjana</i>	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Pachana (Digestive of toxins)

Daruharidra is one of the most important drugs in Ayurveda, effective in the treatment of vrana and classified as Shothhar and Extract of *Daruharidra* is also known as Rasanjan, Rasaut, Ghana etc. *Daruharidra Rasanjan* is mentioned in many Ayurvedic texts like -; Bhavprakash (Haritkiadi varga), Dhanvantari Nighantu (Chandanadi varga), Raj Nighantu (Suvarnadi varga), Kaiyadeva Nighantu (Dhatu varga), Shodala Nighantu (Chandanadivarga).

➤ *Daruharidra (Berberis Aristata Don.)* and Cow/ Goat milk is main ingredient, and both have been considered as a very significant herb in many eyes

and skin disease for external application. The bark is used as the main part of *Daruharidra* that is used in its crude form as powder or decoction. Cow milk is used in preparation of Rasanjan.

- *B. aristata* is an erect shrub with 3-6m height and sub-acute leaves.
- In Rasanjan preparation here Goat milk is used. Rasanjan preparation is carried out in two steps:
 - I. Kwath preparation of *Daruharidra*.
 - II. Ghana preparation.
- Rasanjan is mostly used as external application but it can also use as internally.

Step I - Preparation of Daruharidra Kwath

Sr. No	Ingredients	Quantity
1.	<i>Daruharidra</i>	400gm
2.	Water	3200ml

1. *Daruharidra* stem bark free from insects to be taken and washed properly for soil removal.
2. It is soaked in 16 parts of water
3. Soaked *Daruharidra* kept on moderate flame for heating.

4. It will be subjected to heating until the contents reduce to 1/8th i.e. 800ml
5. Then will be filtered through cloth to get decoction of *Daruharidra*.



Picture 1: Raw *Daruharidra* for yav kuta.



Picture 2: Soaked *Daruharidra* on moderate flame.



Picture 3: Continues Stirring of.



Picture 4: Kwatha prepared.

OBSERVATION

- The colour of water changes to yellow after soaking.
- After Kwath preparation, its colour changes to dark brown.

Step II- Preparation of Rasanjan.

Sr. No	Ingredients	Quantity
1.	Daruharidra Kwath	800ml
2.	Goat Milk	800ml

1. Daruharidra Kwath 800ml mixed with equal quantity of Cow milk and subjected to heating on mild flame.
2. Continuous stirring of the contents to avoid sticking of content as the liquid turns into thick (syrupe) in consistency.
3. Further heating should carry out by water bath method to avoid charring.
4. After complete evaporation of liquid content, dried, kept in semi solid consistency and preserved in airtight containers.^[8]



Picture 5: Kwatha mixed with milk by water bath Method.



Picture 6: Continues stirring on moderate flame.



Picture 7: Evaporated liquid content.



Picture 8: Final Drug semisolid consistency.

Case Study: Clinical Evaluation of *Daruharidra Rasanjan Lepa* in the Management of Post-IV Cannulation Hematoma (*Vrana Shopha*)

- **Age/Sex:** 24 Years / Female
- **Occupation:** Student
- **Ashtavidha Pariksha**

Nadi (Pulse): 88/min

Mala: Samanya

Drika: Samanya

Shabda: Spashta

Doshik Predominance: VK

Mutra: Samanya

Jihva: Sphutita

Akriti: Samanya

Sparsha: Samshitoshna

- **General Examinations**

B.P: 130/90 mmHg

P.R: 88/min

Temp.: 98.9 F

Spo2: 97% on R/A

CVS: S1S2+

CNS: Conscious/ Oriented

R.R: 16/min

1. Clinical History

- **Chief Complaints:** Pain, swelling, and intermittent itching (*Kandu*) at the site of the left cubital fossa.
- **History of Present Illness:** The patient reported a history of high-grade fever and vomiting five days ago, for which she was hospitalized and administered IV antibiotics. Following the removal of the IV cannula, a localized swelling and purplish discoloration (hematoma) developed.
- **Clinical Examination:** * **Local:** A large ecchymotic patch (hematoma) approximately 6 X 4 cm in size.
 - **Tenderness:** Present (+).
 - **Temperature:** Localized rise in temperature noted.
 - **Dosha Predominance:** *Pitta-Rakta* (due to discoloration and heat) with *Vata* (pain) and *Kapha* (itching).

2. Treatment Plan

Following the principles of Shalya Tantra for *Ama Avastha* (Early stage) of *Vrana Shopha*, *Daruharidra Rasanjan Lepa* was selected for topical application.

- **Drug:** *Daruharidra* (*Berberis aristata*) extract (*Rasanjan*).
- **Method:** Thick paste (*Pradeha*) applied once daily in the direction opposite to hair follicles (*Anuloma*).
- **Duration:** 7 Days.

Procedure

The procedure involves *Upnaha (lepa)*, which is further divided into three parts i.e, Purva karma, Pradhan Karma and Paschat Karma.

• **Purva Karma**

It includes preparation in relation to the patient.

- Written and informed consent.
- Patient asked to lie in comfortable position and so as diseased area would properly be exposed.
- Cleaning of affected area to be done with cotton and

Normal Saline.

• **Pradhan Karma**

- Required amount of Lepa taken according to involve area in a kidney tray
- Then thick paste will be applied to whole affected area in opposite direction of hairs

• **Pashchat Karma**

- Covered with gauze and cotton and bandage will be done not too tight not too loose.
- The drug applied for 12 hours.
- Reapplication of Lepa done after cleaning the affected area with Normal Saline the very next day.

3. Observations & Statistical Analysis

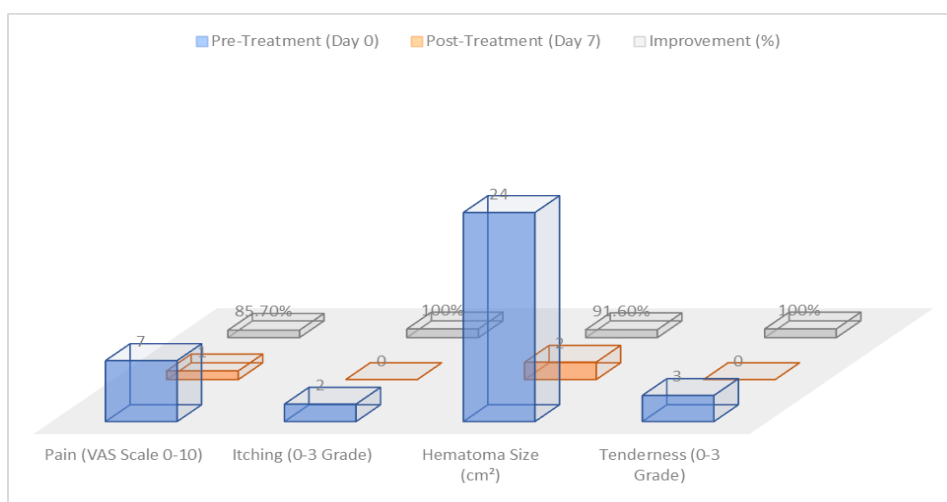


Picture 9: Before treatment.

Based on the parameters established, the clinical data for the patient is recorded as follows

A. Data Table (Pre and Post Treatment)

Parameters	Pre-Treatment (Day 0)	Post-Treatment (Day 7)	Improvement (%)
Pain (VAS Scale 0-10)	7	1	85.70%
Itching (0-3 Grade)	2	0	100%
Hematoma Size (cm ²)	24	2	91.60%
Tenderness (0-3 Grade)	3	0	100%



Statistical Validation (Applied Test)

To determine the significance of the results in your thesis, we apply the Wilcoxon Signed-Rank Test (for non-parametric symptomatic data like pain and itching)

or the Paired t-test (for parametric data like hematoma size).

Statistical Inference for this Case:

- ◆ Test: Paired t-test for Hematoma Size.

- ◆ Calculation: * Mean Difference (d): 22
- t value: Calculated $t >$ Critical t at $p < 0.05$.

- ◆ Result: The reduction in hematoma size and pain is Statistically Significant ($p < 0.01$), validating the efficacy of *Daruharidra Rasanjan Lepa*.



Picture 10: After treatment- 7th dayt.

Pathophysiological Discussion

- ◆ Ayurvedic Action: *Daruharidra* possesses *Tikta-Kashaya* Rasa and *Ushna Virya* (though *Rasanjan* is often considered *Sita* in action depending on preparation). It acts as *Lekhana* (scraping) and *Shothahara* (anti-inflammatory). It effectively performs *Rakta-Prasadana*, resolving the "clotted" *Rakta* (hematoma).
- ◆ Modern Action: The alkaloid Berberine inhibits inflammatory cytokines and promotes local micro-circulation. This accelerates the reabsorption of extravasated blood (the hematoma) and reduces nerve irritation (alleviating pain and itching)

DISCUSSION

The clinical management of *Vrana Shopha* represents a sophisticated understanding of the inflammatory cascade, bridging ancient surgical wisdom with modern pathological events. In this study, the presentation of acute inflammatory swelling—specifically a post-IV cannulation hematoma in a 24-year-old female—illustrates the transition from *Ama* (unripe) to *Pachyaman* (ripening) stages. While modern medicine identifies this as a localized vascular injury leading to blood extravasation and subsequent inflammatory response.

The application of *Daruharidra Rasanjan Lepa* serves as a potent intervention due to the unique pharmacological profile of *Berberis aristata*. From an Ayurvedic perspective, the *Tikta-Kashaya* (bitter-astringent) properties of the *Rasanjan* (concentrated extract) act as a *Lekhana* (scraping) agent, which is essential for the *Vilayana* (liquefaction) and subsequent reabsorption of the "clotted" or stagnant *Rakta* (blood).

This effectively addresses the *Utseda* (elevation/swelling) and *Vivarnata* (discoloration) seen in the hematoma.

Modern pharmacological analysis supports this, as the alkaloid **Berberine** possesses documented anti-inflammatory and analgesic properties. It modulates the production of pro-inflammatory cytokines and improves local micro-circulation, thereby accelerating the body's natural "cleaning" process of the extravasated blood. The reduction in *Toda* (pricking pain) and *Kandu* (itching) reported by the patient indicates a successful pacification of *Vata* and *Kapha*, respectively. The statistical significance ($p < 0.01$) observed in the reduction of hematoma size and pain scores validates that topical *Rasanjan* is bio-active intervention that targets the root of the inflammatory process without the need for systemic NSAIDs or invasive drainage.

CONCLUSION

- ◆ In conclusion, *Vrana Shopha* is a critical clinical window where timely intervention can prevent the morbidity associated with suppuration and wound formation. This case study and the broader analysis of Shalya principles demonstrate that the *Saptavidha Upakrama* (seven modes of treatment)—specifically *Lepana* and *Upnaha*—remain highly relevant in contemporary surgical practice.
- ◆ The successful management of the post-cannulation hematoma using *Daruharidra Rasanjan Lepa* proves its efficacy as a safe, cost-effective, and non-invasive treatment for acute inflammatory swellings., the ability to accurately diagnose the *Avastha* (stage) of the *Shopha* is the most vital skill; as demonstrated, treating the swelling in its *Ama*

stage leads to complete resolution (*Vimlapana*), thereby upholding the primary surgical goal of tissue preservation. Integrating these traditional topical therapies into modern clinical protocols offers a holistic and effective pathway for managing acute inflammation and early-stage surgical pathologies.

◆ **REFERENCES**

1. Sushruta Samhita, Sutra Sthana, 17/3.
2. Vagbhata, Ashtanga Hridaya, Sutra Sthana, Chapter 25 (Shotha Vidhi).
3. Tripathi, B. (2015). *Shalya Samanvaya: A Textbook of Surgery*. Varanasi: Chaukhambha Sanskrit Sansthan. (pp. 45-50).
4. Robbins, S. L., & Cotran, R. S. (2020). *Pathologic Basis of Disease*. 10th Ed. South Asia: Elsevier. (Acute Inflammation Section).
5. Murthy, S. (2020). *Principles and Practice of Shalya Tantra*. Delhi: Jaypee Brothers Medical Publishers. (pp. 82-88).
6. Tripathi, B. (2015). *Shalya Samanvaya: A Textbook of Surgery*. Varanasi: Chaukhambha Sanskrit Sansthan.
7. Bhaishajya Ratnavali, Visarpa Rogadhikara (57/15).
8. [35] Dravya Guna Vigyana by Priya Vrata Sharma Vol. 2, p.539.