

An Overview On Kriya Kala In *Vranashopa*- A Critical Study

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Abstract:

Acharya Sushruta, known as the "Father of Surgery," provided detailed descriptions of abscess formation, wounds (*Vrana*), and their management in surgical practice, including untimely complications. He introduced the concept of *Vranashopa*, the early phase of inflammation or swelling, and emphasized its importance in the management of wounds. In *Ayurveda*, *Shotha* or *Shoppha* is the term for edema, which is characterized by fluid retention in tissues leading to swelling.

Edema can occur in various parts of the body, such as the face, feet, or even half of the body. While it is often a symptom, it can indicate underlying diseases affecting vital organs like the kidney, liver, heart, lungs, and brain. Commonly, edema manifests as painless swelling of the feet and ankles, resulting from abnormal fluid buildup.

Acharya Sushruta also described *Shatkriyakala* in relation to *Shoppha*, highlighting the stages of its progression in *Ayurveda*.

Key words: *Vranashopha*, *Vrana*, *kriyakala*, Inflammation, Edema

Introduction:

Shoppha, *Shotha*, and *Shvayathu* are synonyms referring to unnatural elevations or swelling in the body. *Shotha*, as a clinical entity, has been well recognized since the time of the *Samhitas*, with detailed descriptions of its classification, symptoms, complications, and management found in *Ayurvedic* classics. *Sushruta*, in his *Sushruta Samhita*, explained the surgical aspects of *Shoppha* and *Vrana*, defining *Shoppha* as localized swelling involving the skin and underlying tissues, which can be either even or uneven ⁽¹⁾. He also differentiated *Vrana* from other conditions like glandular enlargements and abscesses. *Shoppha* is considered a precursor to *Vrana*.

According to *Charaka*, when vitiated *Vata* comes in contact with vitiated *Rakta*, *Pitta*, and *Kapha*, it moves to the periphery, obstructing the *srotas* (channels) and leading to *Shotha* around the skin, which is not limited to a specific part of the body ⁽²⁾.

Classification vrana shopha : table no 1

Table no 1: Classification Of *Vrana Shopha*

Category	Types
Based on <i>dosha</i> vitiation and <i>karana</i> (cause)	1. <i>Vataja</i> 2. <i>Pittaja</i> 3. <i>Kaphaja</i> 4. <i>Shonitaja</i> 5. <i>Sannipattaja</i> 6. <i>Agantuja</i> .
Based on <i>Avastha</i> (stage and condition)	1. <i>Ama-Avastha</i> 2. <i>Pakwa-Avastha</i> 3. <i>Pachyamana-Avastha</i>

Kriyakala, a unique concept in *Ayurveda*, provides insights into diagnosing and predicting the progression of a disease. It refers to the treatment methods appropriate for different stages of an illness. While modern science typically recognizes two stages—disease detection and complications—*Ayurveda* identifies six distinct stages (*Shatkriyakala*). Notably, symptoms and complications arise in the last two stages. *Ayurveda* also emphasizes identifying and addressing root causes of a disease before visible symptoms appear. The primary factors influencing disease development are the accumulation

of *Ama* (self-generated toxins) and the imbalance or movement of *Doshas* (biological elements). This approach focuses on managing the early stages of a disease to prevent its progression to more severe stages.

Kriya Kala, the stages of activity, can be broadly categorized into two types: **table no 2** ⁽³⁾

Table no 2: classification of *kriya kala*

Types of <i>kriya kala</i>	Description			
<i>Ritu kriya kala</i> (seasonal <i>doshic</i> variation)	<i>Kala</i>	<i>Vata</i>	<i>Pitta</i>	<i>Kapha</i>
	<i>Chaya</i>	<i>Pravrut</i> (early rainy)	<i>Varsha</i> (rainy)	<i>Shishira</i> (late-winter)
	<i>Prakopa</i>	<i>Varsha</i> (rainy)	<i>Sharad</i> (autumn)	<i>Vasantha</i> (spring)
	<i>prashama na</i>	<i>Sharad</i> (autumn)	<i>Hemantha</i> (early-winter)	<i>Grishma</i> (summer)
<i>Vyadhi kriya kala</i> (disease manifestation and pathophysiology)	<i>Sanchaya</i>		Accumulation	
	<i>Prakopa</i>		Aggravation	
	<i>Prasarana</i>		Transmigration	
	<i>Sthana Samshraya</i>		Localization	
	<i>Vyaktha</i>		Manifestation	
	<i>Beda</i>		Complication	

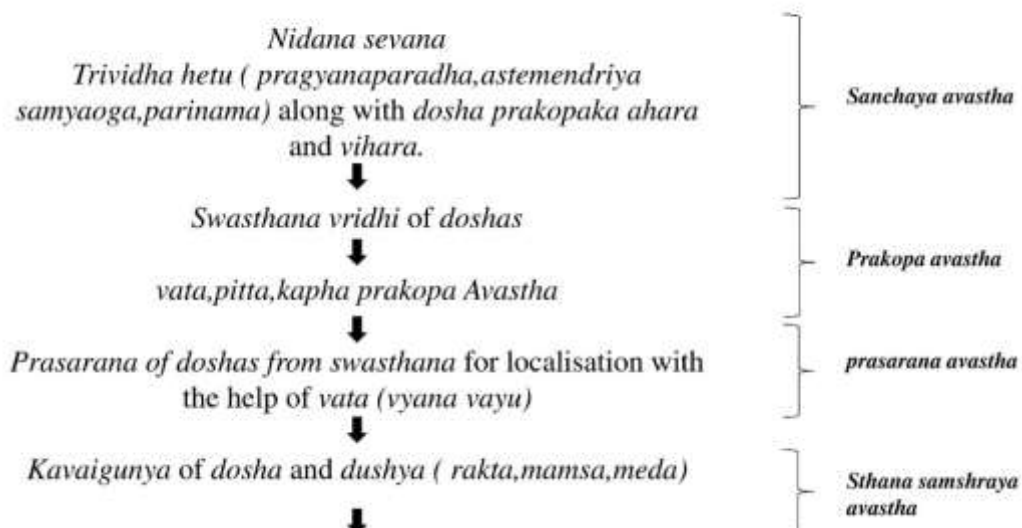
Understanding The Concept Of *Kriya Kala* In *Vrana Shophya*:

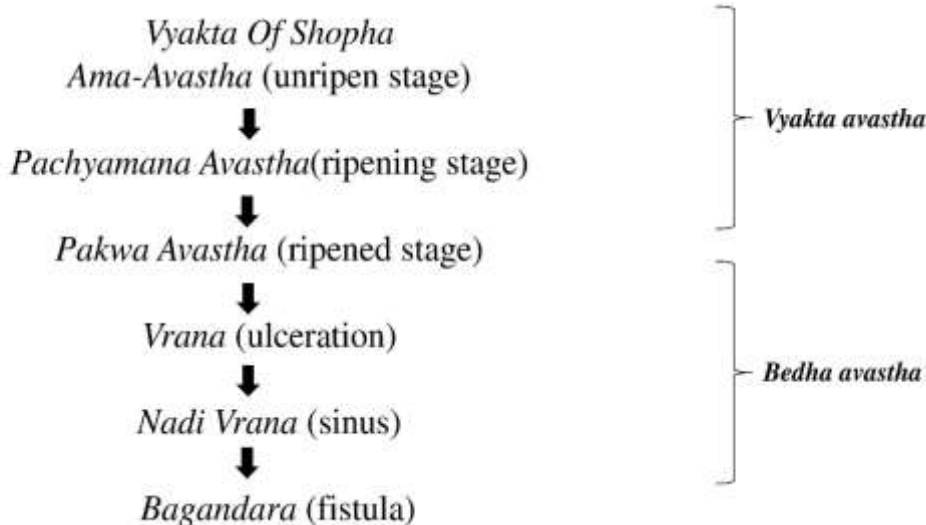
Acharya Sushruta introduced the concept of *Kriyakala* in the *Varnaprashnadhyaya* ⁽⁴⁾, combining "*Kriya*" (treatment or action) and "*Kala*" (time). *Kriyakala* refers to the timeframe or window of opportunity in a disease's progression. The six stages of *Shat Kriyakala*, as described by *Sushruta*, provide a deep understanding of the imbalance in biological factors (*Doshadushti*) and the disease's evolution. These stages not only reflect the current state of the disease but also guide when to initiate treatment and the most appropriate course of action.

In modern medicine, maintaining homeostasis is crucial for sustained health. Homeostasis refers to the body's ability to regulate its internal environment, ensuring stability despite external changes or weather variations. Diseases often stem from the body's failure to maintain this balance, disrupting its internal equilibrium and leading to health issues.

Pathophysiology: flow chart 1

Flow Chart 1: Pathophysiology Of *Vrana Shophya*





Lakshanas-table no: 3

Table no: 3 Lakshanas Of Vrana Shophya

Avasthas	Lakshanas	
Ama-Avastha	<i>Mandoshmata</i> <i>Twak Savarnata</i> <i>Sheeta Shophata</i> <i>Sthairya</i> <i>Manda Vedana</i> <i>Alpa Shophata</i>	
Pachyamana- Avastha	<i>Suchibiriva-nistudyate</i> Other different kind of pain like bitten, piercing, burning With pain like that of a scorpion sting, the patient obtains no relief in standing, sitting or lying down postures. The swelling goes on increasing like a full bladder, <i>Twak vaivarnya</i> <i>Shophya abhivrudhi</i> , <i>Jwara</i> , <i>Daha</i> , <i>Pipasa</i> , <i>Bhaktaaruchi</i>	
Pakwa-Avastha	<i>Vedanopashanthi</i> , <i>Pandutha</i> , <i>Alpa shophata</i> , <i>Vali pradurbhava</i> , <i>Twak pariputana</i> ,Feeling the liquid pus within as the movements of water within the bladder, when it is pressed on one side pressure is felt on other side this is called fluctuation, <i>Kandu Toda prashamana</i>	
<i>Bedha avastha</i>	<i>Vrana</i>	Wound manifestation
	<i>Nadi vrana</i>	Infection invades into deeper tissue resulting in sinus
	<i>Bagandara</i>	Further sinus forms a communicating track

Management of Vranashophya:

The *Vranashophya* should be managed in early stage to avoid suppuration and more tissue harm as described in stages of *Shatkriyakala*. The **table no 4** describes treatment adopted according to stage of the *shophya* .

Table No 4: Chikista Avidhi In Vrana Shopha

Avasthas Of Vrana Shopha	Management	
Sanchaya Avastha	<i>Nidana parivarjana, dosha shamana</i>	
Prakopa Avastha	<i>Nidana parivarjana, dosha shamana and shodhana (abyantara)</i>	
Prasarana Avastha	<i>Sthana-antara chikitsa (eg : kapha hara chikitsa in urdhwamashaya)</i>	
Sthana Samshraya Avastha	<i>Nidana parivarjana, shamana and shodhana</i>	
Vyakta Avastha	Ama-avastha	<i>Vimlapana , Avasechana and Upanaha</i>
	Pachyamana-avastha	<i>Vimlapana , Avasechana and Upanaha</i>
	Pakwa-avastha	<i>Patana , visravana, Shodhana , Ropana and Vaikrutapaha</i>
Bheda Avastha	<i>Sashtra karma (bhedana, chedhana, eshana, visravana) shodana, ropana and vaikritapaha chikitsa</i>	

INFLAMMATION

Definition and causes ⁽⁵⁾

Inflammation is defined as the local response of living mammalian tissues to injury from any agent.

It is a body defence reaction in order to eliminate or limit the spread of injurious agent, followed by removal of the necrosed cells and tissues

The injurious agents causing inflammation may be as under:

1. Infective agents like bacteria, viruses and their toxins, fungi, parasites.
2. Immunological agents like cell-mediated and antigen antibody reactions.
3. Physical agents like heat, cold, radiation, trauma.
4. Chemical agents like organic and inorganic poisons.
5. Inert materials such as foreign bodies.

SIGNS OF INFLAMMATION ⁽⁶⁾

The Roman writer Celsus in 1st century A.D. named the famous 4 cardinal signs of inflammation as:

- i) Rubor (redness)
- ii) Tumor (swelling)
- iii) Calor (heat)
- iv) Dolor (pain).
- v) To these, fifth sign function-lesion (loss of function) was later added by Virchow.

Types Of Inflammation:

Inflammation can be classified into two types based on the defence capacity of the host and duration of the response:

1. Acute Inflammation

- Duration: Less than 2 weeks
- Represents the early body reaction
- Resolves quickly, followed by healing
- Main features:
 - Accumulation of fluid and plasma at the affected site
 - Intravascular activation of platelets
 - Polymorphonuclear neutrophils as inflammatory cells

2. Chronic Inflammation

- Duration: Longer and occurs after a delay
- Can result from persistent causative agents or from the beginning of chronic inflammation
- **Chronic Active Inflammation:** Characterized by acute exacerbations during the disease course
- Main features:
 - Presence of chronic inflammatory cells (lymphocytes, plasma cells, macrophages)
 - Granulation tissue formation
 - In some cases, granulomatous inflammation

Edema-(Swelling):

Edema refers to swelling caused by fluid buildup in tissues. It can affect a small area or the entire body and may result from various conditions, including injury, inflammation, medications, pregnancy, infections, and other medical problems (7).

Causes Of Edema: Table No 5

Table No 5 : Causes Of Edema

Causes	Examples
Injury	Twisted ankle, bee sting, skin infection
Allergic reactions	Allergic responses causing fluid buildup
Fluid flow obstruction	Blockages in veins or lymphatic system
Congestive heart failure	Impaired heart function leading to fluid retention
Liver diseases	Cirrhosis
Pregnancy	Mild leg edema, deep vein thrombosis, preeclampsia
Head trauma	Injury causing fluid retention in the brain or surrounding areas
Medications	NSAIDs, calcium channel blockers, corticosteroids, pioglitazone, rosiglitazone, pramipexole

Types of Edema: Table No 6

Table no 6: Types of edema

Edema types	description
Peripheral Edema	Affects legs, feet, ankles, or arms; may indicate circulatory, lymphatic, or kidney issues.
Pedal Edema	Fluid accumulation in the feet and lower legs; common in older adults and pregnant women.
Lymphedema	Swelling in arms and legs caused by lymph node damage (e.g., from cancer treatments or cancer itself).
Pulmonary Edema	Fluid accumulation in the lungs, causing breathing difficulty, fast heartbeat, cough, and foamy sputum, sometimes with blood.
Cerebral Edema	Fluid buildup in the brain, caused by blocked or burst blood vessels, tumors, or allergic reactions.
Macular Edema	Fluid buildup in the macula of the eye, often due to leaking blood vessels in the retina.
Generalised Edema	Anasarca is severe generalized fluid accumulation in the interstitial space.

Discussion:

Vranashopha is described as the early phase of *Vrana* (wound) in *Sushruta's* teachings. He detailed the three progressive stages of inflammatory swelling under *Vranashopha* as *Amavastha* (early stage of inflammation), *Pachyamanavastha* (true inflammatory stage) and *Pakwavastha* (suppurative stage).

Sushruta classified *Vranashopha* into six types based on their characteristics such as *Vattika*, *Paittika*, *Kaphaja*, *Shonitaja*, *Sannipattaja*, *Agantuja*

He described these types according to cause, color, consistency, pain, and other symptoms.

In this context, *Shatkriyakala* (the six stages of disease progression) was explained by Sushruta, emphasizing that disease pathogenesis follows a sequential pattern. Understanding these stages allows for preventive measures to avoid complications.

Sushruta outlined sixty procedures for managing *Vranashopha* and *Vrana* (abscess/wound), with the first eleven—ranging from *Apatarpana* (nourishment) to *Virechana* (purgation)—specifically for *Vranashopha*. Treating *Vranashopha* in its early stage is crucial for preventing complications from infected wounds and further damage to the body.

Conclusion:

Vranashopha has been widely discussed by various *Acharyas*, but *Acharya Sushruta's* concept is most relevant for diagnosis and treatment from a surgical perspective. Diagnosing according to the progressive stages of *Vranashopha* is highly beneficial. Sushruta explained that if *Doshas* are eliminated during the *Sanchyavastha* (accumulation stage), they do not progress to later stages. Otherwise, as the condition advances, it becomes more harmful⁽⁸⁾. Therefore, inflammation should be treated in its early stage to prevent it from progressing into an abscess.

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