



# Integrated Approach To Management Of *Vata Pittaj Visarpa* With Special Reference To Steven Johnson Syndrome

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## Abstract

Stevens-Johnson Syndrome (SJS) is a rare but serious hypersensitivity disorder characterized by mucocutaneous lesions, epidermal detachment, and systemic involvement. Modern medicine primarily relies on discontinuing the offending drug, supportive therapy, and corticosteroids. Ayurveda offers a holistic approach that focuses on detoxification (*Shodhana*), pacification of aggravated *Doshas* (*Shamana*), and tissue healing (*Rasayana*).

## Introduction

Stevens-Johnson Syndrome (SJS) is a rare but life-threatening hypersensitivity disorder characterized by severe mucocutaneous reactions. It is often drug-induced and presents with widespread epidermal detachment, mucosal ulcerations, and systemic involvement. SJS is part of a spectrum that includes Toxic Epidermal Necrolysis (TEN), where SJS involves <10% of total body surface area (TBSA), while TEN involves >30% TBSA. The mortality rate in SJS ranges from 1-5%, but in TEN, it can exceed 30% due to severe complications such as sepsis and multi-organ failure.

Stevens-Johnson Syndrome (SJS) is a life-threatening dermatological emergency, often induced by drugs such as non-steroidal anti-inflammatory drugs (NSAIDs), antibiotics, and anticonvulsants. It manifests as extensive skin blistering, mucosal ulceration, fever, and systemic complications. In *Ayurveda*, it can be correlated with *Visarpa* (severe inflammatory skin disorder) or *Pitta-Vata Prakopa* leading to *Raktadushti* (vitiation of blood).

## Etiology and Pathogenesis

SJS is primarily triggered by medications, with NSAIDs, sulfonamides, anticonvulsants (carbamazepine, phenytoin), and antibiotics (penicillins, cephalosporins) being the most common culprits. Infections like *Mycoplasma pneumoniae* and certain viral infections can also act as triggers.

The pathogenesis of SJS is linked to immune-mediated mechanisms involving cytotoxic T cells and natural killer (NK) cells. These cells release granulysin, a powerful cytotoxic protein, leading to keratinocyte apoptosis and extensive epidermal damage. Drug-specific CD8<sup>+</sup> T cells trigger the production of tumor necrosis factor-alpha (TNF- $\alpha$ ) and Fas-FasL interactions, leading to widespread apoptosis of keratinocytes.

## Clinical Features

SJS begins with prodromal symptoms such as fever, malaise, myalgia, and upper respiratory symptoms before the onset of mucosal and skin lesions. The condition rapidly progresses to,

**Mucosal involvement:** Painful erosions in the oral cavity, conjunctiva, and genital mucosa.

**Cutaneous lesions:** Erythematous macules that coalesce into blistering areas, leading to epidermal detachment. The Nikolsky sign (skin sloughing with slight pressure) may be positive.

**Ocular involvement:** Conjunctivitis, corneal ulceration, and in severe cases, blindness [6].

## Current Management Strategies in Modern Medicine

The primary treatment for SJS involves immediate discontinuation of the offending drug, followed by intensive supportive care:

Hospitalization in ICU or burn units

Intravenous fluid therapy to prevent dehydration

Nutritional support (enteral feeding if needed)

Pain management with analgesics

Systemic corticosteroids and IV immunoglobulin (IVIG) in severe cases

Topical antiseptics, antibiotic prophylaxis, and ophthalmologic care

Despite these interventions, long-term complications such as ocular scarring, skin hyperpigmentation, and chronic mucosal damage remain major challenges.

## Ayurvedic Perspective on SJS

In Ayurveda, SJS can be understood as a manifestation of *Pitta-Vata Prakopa* (aggravation of *Pitta* and *Vata* doshas) leading to *Raktadushti* (blood vitiation) and *Visarpa* (severe inflammatory skin disorder).

### **Dosha Involvement:**

**Pitta Dosha:** Governs heat, inflammation, and blood circulation. Its aggravation leads to burning sensation, ulcers, and erythema.

**Vata Dosha:** Governs movement and dryness. Its imbalance results in skin peeling, systemic weakness, and pain.

**Rakta Dhatu (Blood Tissue) Vitiation:** Involves severe inflammatory reactions affecting the skin, mucosa, and systemic circulation.

## Pathogenesis of SJS in Ayurveda

*Nidana* (Causative factors):

*Aushadha Sevana* (Drug Intake) – Intake of heat-producing and Pitta-aggravating medications like antibiotics, NSAIDs, and anticonvulsants.

*Viruddha Ahara* (Incompatible diet) – Excessive intake of hot, spicy, or fermented foods worsens Pitta imbalance.

*Raktadushti Hetu* (Blood vitiation causes) – Toxins accumulated in the blood lead to severe inflammatory reactions in the skin and mucosa.

### **Samprapti (Pathogenesis):**

Aggravated *Pitta* and *Vata doshas* enter *Rakta Dhatu*, triggering widespread inflammation.

This manifests as skin rashes, ulceration, fever, and systemic toxicity, resembling the modern description of SJS.

### **Ayurvedic Management of SJS**

The *Ayurvedic* approach to treating SJS focuses on detoxification (*Shodhana*), pacification of aggravated doshas (*Shamana*), and *Rasayana* therapy (rejuvenation and tissue repair).

It includes

1. *Shodhana* (Detoxification Therapy)
2. *Shamana* (Palliative Therapy)
3. *Rasayana* Therapy (Rejuvenation & Recovery)

### **Case Presentation**

21 yr old male patient presented in *Kayachikitsa* OPD with complain of High-grade fever (since 7 days), Multiple painful oral ulcers, Erythematous rash with peeling skin over the trunk and upper limbs, Burning sensation and redness in eyes, Dry cough. Since 7-8 days

History of Present Illness:

The patient had taken an NSAID (Ibuprofen) for fever. Within 48 hours, she developed oral ulcers, skin lesions, and eye irritation.

Symptoms worsened progressively, leading to difficulty in swallowing and severe discomfort.

Clinical Examination:

General Condition: Weak, mild dehydration

Oral Mucosa: Multiple ulcerations with severe pain and erythema

Skin: Erythematous maculopapular rash over the trunk, arms, and legs Superficial peeling of skin, no full-thickness epidermal detachment

Eyes: Mild conjunctival congestion, photophobia, no corneal involvement

O/E: Pulse- 96/min

BP – 110/70 mmHg

Temperature – 101°F

RS- Bilateral Clear

CVS – S1S2 normal

CNS – Conscious and Oriented

### Diagnosis

Based on clinical presentation, history of drug exposure, and systemic manifestations, the patient was diagnosed with NSAID-induced Stevens-Johnson Syndrome.

### Ayurvedic Management

1. *Chandrakala Rasa* 500mg 2 tablets thrice a day
2. *Praval* (2gm) + *Mauktika* (1gm) + *Amalaki* (500mg) + *Yashti* (500mg) twice a day with Luke warm water
3. *Yashti Ghruta* + *Bhimsaini Karpur* for local application
4. *Haridra* + *Triphala* + *Kankshi* for *Vranadhawan*

### Modern Management

1. KMNO<sub>4</sub> Gargles twice a day
2. Colera Liquid (Benzydamine) ½ TSF in ½ Cup water for Gargles (before meal) twice a day
3. Tab. Omnacortil (Prednisolone) 20mg twice a day with Milk for 7 days then 10mg twice a day for 5 days then 5mg twice a day for 5 days
4. H.H. Sone Cream (Mometasone) for Local Application twice a day
5. Tess Cream (Triamcinolone) for local application twice a day
6. Tab. Linid (Linezolid) 600mg twice a day
7. Candid Mouth paint (Clotrimazole) For local application twice a day

### Outcome and Discussion

Day 5: Fever subsided, oral ulcers started healing, inflammation reduced

Day 10: Skin lesions improved significantly, no new eruptions

Day 15: Complete recovery of oral mucosa, mild hyperpigmentation on skin

1-Month Follow-Up: No recurrence, skin and mucosa fully restored

### *Chandrakala Rasa*

Composition: *Parada* (Purified Mercury), *Gandhaka* (Purified Sulfur), *Praval Pishti* (Coral Calcium), *Amalaki* (*Emblica officinalis*), *Yashtimadhu* (*Glycyrrhiza glabra*), *Kamdudha Rasa*, *Giloy Satva*, etc.

Mode of Action:

*Pitta Shamana* (Cooling & Anti-Inflammatory Action):

*Praval Pishti* and *Kamdudha Rasa* have alkaline properties, neutralizing excessive acid and reducing *Pitta*-related inflammation.

*Amalaki* (*Emblica officinalis*) is rich in Vitamin C and flavonoids, helping in antioxidant defense and reducing oxidative stress on keratinocytes.

*Rakta Prasadana* (Blood Purification & Detoxification):

Mercurial preparations (*Parada & Gandhaka*) undergo metabolic activation in the liver, where they exhibit detoxifying properties and neutralize drug-induced hypersensitivity reactions.

*Guduchi Satva* (*Tinospora cordifolia*) modulates immune response by enhancing phagocytosis and reducing excess inflammatory cytokines (TNF- $\alpha$ , IL-6, IL-1 $\beta$ ).

Wound Healing & Tissue Regeneration:

*Yashtimadhu* (Licorice) has demulcent and anti-ulcer properties, forming a protective barrier over oral and mucosal lesions.

*Gandhaka* (Sulfur) accelerates epithelialization and keratinocyte migration, aiding in skin regeneration.

Pharmacokinetics:

Absorbed in the gastrointestinal tract, mainly metabolized in the liver, and excreted through the biliary and renal pathways.

The bioavailability of mercury-based formulations is enhanced by *Shodhana* (purification process), which ensures safe systemic absorption.

### ***Praval Pishti* (Coral Calcium)**

Composition: Natural coral calcium processed with Rosewater.

Mode of Action:

Pitta-pacifying and Cooling Effect:

Contains calcium carbonate ( $\text{CaCO}_3$ ), magnesium, and trace minerals, which neutralize gastric acids and reduce inflammation.

Alkalizing properties help counteract acidic metabolites, reducing drug-induced toxicity in SJS.

Immunomodulation & Tissue Repair:

Enhances calcium-dependent signaling pathways, crucial for keratinocyte proliferation and wound healing.

Reduces prostaglandin E2 (PGE2) levels, controlling inflammation.

Pharmacokinetics:

Rapid absorption in the small intestine, bioavailable calcium is stored in bones and soft tissues.

Metabolized in liver and kidneys, excreted through urine.

### ***Guduchi Satva* (*Tinospora cordifolia* Extract)**

Composition: Extract of *Tinospora cordifolia*, a powerful immunomodulator.

**Mode of Action:**

**Immunomodulatory Action:** Inhibits TNF- $\alpha$  and IL-6, reducing systemic inflammation and preventing excessive immune activation. Enhances T-cell-mediated immunity, improving the body's ability to repair mucosal and skin damage.

**Detoxification & Hepatoprotective Effect:** Stimulates liver enzymes (cytochrome P450 system) for rapid clearance of drug toxins. Prevents drug-induced hepatotoxicity, commonly seen in SJS.

**Skin Healing & Anti-inflammatory Action:** Increases fibroblast activity, aiding in collagen synthesis and skin repair.

**Pharmacokinetics:** Absorbed in the small intestine, reaches peak plasma levels within 2 hours, and is metabolized in the liver. Renal excretion of active metabolites occurs within 24 hours.

***Yashtimadhu (Licorice - Glycyrrhiza glabra)***

**Composition:** Glycyrrhizin, flavonoids, saponins, and coumarins.

**Mode of Action: Mucosal Healing & Anti-Ulcer Effect:**

Forms a protective coating on mucosal surfaces, preventing ulceration and reducing pain. Increases mucin secretion, promoting rapid re-epithelialization of ulcerated areas.

**Anti-inflammatory & Antioxidant Action:** Inhibits COX-2 and lipoxygenase pathways, reducing prostaglandin-mediated inflammation. Scavenges free radicals, preventing oxidative damage to skin and mucosal tissues.

**Pharmacokinetics:**

Slow absorption in the intestine, metabolized in the liver, and excreted primarily via bile.

Peak plasma concentration occurs in 2-4 hours after oral administration.

***Triphala (Haritaki, Bibhitaki, Amalaki)*****Composition:**

*Haritaki* (*Terminalia chebula*) – Detoxifier, rejuvenates skin.

*Bibhitaki* (*Terminalia bellirica*) – Antimicrobial, wound healing.

*Amalaki* (*Emblica officinalis*) – Antioxidant, immunomodulator.

**Mode of Action:*****Triphala Dhavana* (Wound Cleansing & Eye Wash):**

Reduces microbial load and prevents secondary infections in SJS skin lesions.

Maintains corneal hydration and prevents conjunctival scarring.

**Detoxification & Immunomodulation:** Promotes liver detoxification, accelerating the clearance of toxins and inflammatory mediators.

Upregulates glutathione synthesis, providing antioxidant protection.

**Pharmacokinetics:** Polyphenols and tannins are absorbed in the small intestine.

Hepatic metabolism leads to the formation of bioactive metabolites, excreted via urine and bile.

## Conclusion

The holistic approach of Ayurveda in SJS utilizes a combination of herbo-mineral formulations, *Rasayana* (rejuvenation therapy), and local wound care. *Chandrakala Rasa* and *Haridra*, *Kankshi* and *Triphala Dhavana* play a crucial role in reducing inflammation & oxidative stress, Detoxifying blood & promoting immune balance, Enhancing epithelial & mucosal healing. These formulations offer a comprehensive therapeutic alternative to modern supportive therapy, with promising results in SJS recovery. Further clinical trials are needed to validate their effectiveness in large patient populations.

## Disclosure of conflict of interest

The authors declare that there was no conflict of interest regarding the publication of manuscript

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