

A Descriptive Study on DuṣṭaVraṇa (Infected Wound) with a Case Study of Degloving Injury Managed by VraṇaRopanaTaila.

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Abstract-

Infected wounds are a common surgical problem and often result in delayed healing, persistent discharge, pain, and risk of chronicity. In Ayurveda, such conditions are described under DuṣṭaVraṇa, caused by Doṣa vitiation and local contamination leading to impaired wound healing. Ayurvedic wound management emphasizes the principles of Śodhana (cleansing) and Ropana (healing). RopanaTaila, described in classical Ayurvedic texts, possesses properties that support wound purification and tissue regeneration.

A patient presenting with an infected wound characterized by pain, purulent discharge, foul odor, and delayed healing was managed with local application of RopanaTaila after proper wound cleansing. Regular wound dressing was carried out, along with appropriate internal Ayurvedic medications based on Doṣa involvement. Clinical parameters such as pain, discharge, local inflammation, granulation tissue formation, and wound size were assessed periodically to evaluate the healing process.

Marked reduction in pain, discharge, and inflammation was observed within a short duration. Formation of healthy granulation tissue and progressive wound contraction were noted, leading to complete wound healing without any adverse effects or complications.

This case study demonstrates that RopanaTaila is effective in the Ayurvedic management of infected wounds (DuṣṭaVraṇa) and may serve as a safe, economical, and efficient modality in wound care.

Keywords: DuṣṭaVraṇa, Infected Wound, RopanaTaila, Ayurveda, Case Study

I. Introduction

Infected wounds are a frequent problem in surgical practice and are often associated with delayed healing, pain, discharge, and risk of complications. Despite advances in modern wound care, infected and non-healing wounds remain a challenge. Ayurveda describes such infected and chronic wounds under the concept of DuṣṭaVraṇa,

explained elaborately by ĀcāryaSuśruta, the pioneer of surgical science. Ayurvedic wound management is based on the principles of VraṇaŚodhana (cleansing) and VraṇaRopana (healing), which aim not only to control infection but also to restore tissue integrity.

Definition of Vraṇa

ĀcāryaSuśruta defines Vraṇa as a break in continuity of body tissues that leaves a permanent scar even after healing.

“Vranonāmamāmsa-bhedātsamjāyate, saroḥaṇe’pivarṇobhavati”

— SuśrutaSamhitā, CikitsāSthāna 1/6

Definition of DuṣṭaVraṇa-Nirukti (Etymology)

The word Vraṇa is derived from the root “vraṇ” meaning to break or tear. Duṣṭa denotes something that is vitiated, impure, or pathological. Thus, DuṣṭaVraṇa refers to a wound that is vitiated due to Doṣic imbalance, contamination, or improper management, leading to delayed or abnormal healing.

When a wound becomes chronic, infected, painful, foul-smelling, excessively discharging, and fails to heal normally due to aggravated Doṣas, it is termed DuṣṭaVraṇa.

Vraṇa is defined as a discontinuity in body tissues caused due to trauma, surgery, or disease, which leaves a permanent scar even after healing.

“Vranonāmamāmsa-bhedātsamjāyate, saroḥaṇe’pivarṇobhavati”

— SuśrutaSamhitā, CikitsāSthāna 1/6

When a wound is affected by aggravated Doṣas, improper care, contamination, or repeated trauma, it becomes DuṣṭaVraṇa. Classical features of DuṣṭaVraṇa include excessive pain, profuse discharge, foul smell, unhealthy granulation tissue, discoloration, and delayed healing.

“Ati-rujoati-durgandhoati-srāvovivṛttaḥkathinaś ca yaḥ |

Ṣa duṣṭavraṇaitiuktah”

— SuśrutaSamhitā, SūtraSthāna 22

These features closely resemble the modern clinical signs of infected wounds “Ati-rujoati-durgandhoati-srāvovivṛttaḥkathinaś ca yaḥ | Sa duṣṭavraṇaityuktaḥ”

— SuśrutaSamhitā, SūtraSthāna 22

Nidāna (Etiological Factors)

The causative factors of DuṣṭaVraṇa include both local and systemic causes:

- Local factors
- Trauma (abhighāta)
- Contaminated wounds
- Improper suturing or dressing
- Retained foreign bodies
- Repeated trauma or pressure
- Poor local hygiene
- Systemic factors
- Doṣic aggravation
- Malnutrition
- Chronic illnesses
- Weak immunity

Samprāpti (Pathogenesis)

Due to the above nidānas, Vāta, Pitta, and Kapha become vitiated and localize at the wound site along with Rakta and MāmsaDhātu, resulting in Doṣa-DuṣyaSammūrchanā. This leads to:

- Inflammation
- Tissue necrosis
- Slough formation
- Infection
- Impairment of natural wound healing

process

Role of Doṣas

- Vāta → Severe pain, dryness, irregular wound margins, delayed healing
- Pitta → Redness, heat, pus formation, foul smell
- Kapha → Excessive discharge, slough, heaviness, sluggish healing

Lakṣaṇa (Clinical Features)

Classical features of DuṣṭaVraṇa include:

- Ati-rujā (intense pain)
- Ati-srāva (profuse discharge)
- Durgandha (foul odor)
- Śopha (swelling)
- Daha (burning sensation)
- Discoloration of wound
- Unhealthy granulation tissue
- Delayed or absent healing

Types of DuṣṭaVraṇa

According to Doṣa predominance:

1. VātajaDuṣṭaVraṇa – severe pain, dryness, cracking

2. PittajaDuṣṭaVraṇa – redness, burning, pus, foul smell
3. KaphajaDuṣṭaVraṇa – excessive discharge, slough, itching
4. RaktajaDuṣṭaVraṇa – bleeding, inflammation
5. SannipātajaDuṣṭaVraṇa – mixed symptoms, difficult prognosis

Sādhyāsādhyatā (Prognosis)

DuṣṭaVraṇa is generally considered kṛcchra-sādhyā (difficult to cure). Prognosis depends on:

- Site of wound (soles, joints are difficult)
- Chronicity
- Degree of infection
- Patient’s strength and immunity

Upadrava (Complications)

If untreated, DuṣṭaVraṇa may lead to:

- Excessive tissue destruction
- Sinus and fistula formation
- Gangrene
- Septicemia (modern correlation)

Management Principles (Brief Overview)

Treatment is based on ṢaṣṭiUpakrama, mainly:

VraṇaŚodhana – cleansing, debridement
VraṇaRopaṇa – healing and tissue regeneration
Local application of RopaṇaTaila, Ghr̥ta, and herbal formulations plays a key role. Concept of Vraṇa and DuṣṭaVraṇa-

Etiopathogenesis-

DuṣṭaVraṇa occurs due to vitiation of Vāta, Pitta, and Kapha, along with involvement of Rakta and MāmsaDhātu. Factors such as trauma, contamination, improper wound management, and delayed intervention contribute to infection and non-healing. In modern terms, this corresponds to bacterial invasion, tissue necrosis, and impaired local healing response.

Principles of Management-

The management of DuṣṭaVraṇa is based on ṢaṣṭiUpakrama, among which VraṇaŚodhana and VraṇaRopaṇa are of prime importance. The initial aim is to clean the wound and eliminate infection, followed by promotion of healthy granulation and epithelialization.

Case Study-

A 45-year-old male patient presented with a non-healing wound over the right sole, associated with pain, discharge, foul smell, and difficulty in walking. The patient had a history of road traffic accident (RTA) resulting in a degloving injury of the

right sole. Primary suturing was done outside immediately after injury.

Clinical History and Examination

Post-suturing, the wound failed to heal and gradually became infected. Sutures were later removed, and the wound was kept open for secondary healing. On examination, a raw wound with unhealthy granulation tissue, seropurulent discharge, and mild foul smell was noted on the plantar aspect of the right foot. Surrounding skin was inflamed and tender.

The patient had no history of diabetes mellitus, hypertension, or any other systemic illness. General

and systemic examinations were within normal limits. Based on clinical features, the condition was diagnosed as *DuṣṭaVraṇa*.

Treatment Protocol-

Management was planned according to Ayurvedic principles:

VraṇaSodhana: Surgical wound debridement was performed to remove slough and unhealthy tissue.

Local Treatment: Regular wound dressing was done with *VraṇaRopanaTaila* under aseptic precautions.

Supportive Care: Limb elevation, rest, and maintenance of local hygiene were advised.



II. Results

Gradual reduction in pain, discharge, and foul smell was observed. Healthy granulation tissue developed, followed by progressive wound contraction and epithelialization. The wound healed

satisfactorily by secondary intention without complications. No adverse effects were observed during treatment.



III. Discussion

Degloving injuries of the sole are challenging due to poor vascularity and continuous mechanical stress. Failure of primary suturing led to wound infection and delayed healing in this case. Ayurvedic management focusing on proper debridement and regular application of VranaRopanaTaila proved effective. The taila possesses antimicrobial, anti-inflammatory, and wound-healing properties, facilitating healthy tissue regeneration