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## “A CLASSICAL AND CONTEMPORARY ANALYSIS OF *SHITADA* (*DANTAMOOLAGATA ROGA*) IN THE CONTEXT OF PERIODONTAL DISEASES”

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### ABSTRACT

Diseases affecting *Dantamoola* (periodontium) constitute a significant public health concern in developing countries and remain a leading cause of tooth morbidity and loss. Epidemiological data indicate that gingivitis alone affects nearly 50% of the population, largely attributable to inadequate oral hygiene practices and limited access to preventive dental care. In *Ayurveda*, gingivitis closely correlates with *Shitada*, an early-stage disorder of periodontal tissues described under diseases of the oral cavity. *Shitada* is primarily caused by the vitiation of *Kapha* and *Rakta*, resulting in classical clinical features such as spontaneous gingival bleeding, halitosis, inflammation, tenderness, and progressive gingival recession. If left untreated, this condition may alter the contour, stability, and position of teeth, ultimately leading to tooth mortality.

The present study aims to critically analyze the etiopathogenesis, symptomatology and disease progression of *Shitada* in light of classical *Ayurvedic* literature and to correlate it with the modern understanding of gingivitis. Special emphasis is laid on the principles of *Ayurvedic* management along with local and systemic therapeutic measures and their probable mode of action. By integrating classical concepts with contemporary periodontal knowledge, this study seeks to provide a comprehensive, evidence-informed perspective on

the prevention and management of gingival diseases through *Ayurveda*, highlighting its relevance in modern oral healthcare.

**KEYWORDS:** *Dantamoola*, Gingivitis, *Shitada*.

## **INTRODUCTION:**

*Shalaky Tantra* is a specialized branch of *Ayurveda* that deals with disorders affecting the organs located above the clavicle, including the eye, ear, nose and oral cavity. The *Mukha*, or oral cavity, serves as the gateway to the gastrointestinal tract and is widely regarded as an important indicator of systemic health. It is also considered a vital component of the *Urdhwanga*, reflecting both local and generalized pathological changes. The gingiva is a specialized part of the oral mucosa that covers the alveolar processes of the jaws and encircles the cervical portion of the teeth. It provides structural support and rigidity necessary to withstand the mechanical forces generated during mastication while maintaining close adaptation to the tooth surface. In *Ayurveda*, diseases involving the periodontal tissues are described under *Dantamoolagata Roga*. Among these conditions, *Shitada* closely resembles gingivitis based on similarity in clinical features such as gingival inflammation, bleeding, halitosis and tenderness. *Shitada* is described as an early or initial pathological condition affecting the gingiva and supporting structures of the teeth. It primarily involves the vitiation of *Kapha* and *Rakta* and, if not managed appropriately, may progress to more severe periodontal disorders. Early identification and timely intervention, guided by classical *Ayurvedic* principles, play a crucial role in arresting disease progression and ensuring a favorable prognosis.

## **MATERIALS AND METHODS**

The present review is based on a comprehensive analysis of classical *Ayurveda* texts, contemporary textbooks and published research articles related to periodontal health. Emphasis was placed on literature describing the etiological factors, pathogenesis, clinical manifestations and therapeutic principles of *Shitada*. Relevant modern scientific literature on gingival inflammation and gingivitis was also reviewed to establish conceptual correlations. The collected data were systematically analyzed to highlight potential therapeutic targets and integrative management approaches described in *Ayurveda*.

### **NIDANA (ETIOLOGY)**

The classical Ayurveda texts do not describe a distinct or disease-specific etiology for *Shitada*. However, the general etiological factors (*Nidana*) responsible for *Mukharoga* are considered applicable to *Shitada*. These factors broadly include dietary (*Aaharaja*) and behavioral (*Viharaja*) causes that contribute to the vitiation of *Dosha* and subsequent manifestation of disease in the gingival tissues.

Dietary factors described in the classics predominantly include *Kaphavardhaka* and *Ajirnakaraka* substances. Excessive consumption of fish, meat, raw radish, black gram, curd, milk, sugarcane juice, fermented preparations such as *Shukta* and concentrated sweet products like *Phanita* are commonly implicated. Intake of heavy, sweet, cold and dry foods, as well as excessive consumption of cold water, further aggravates *Kapha*. These dietary habits impair *Agni*, leading to the formation of *Ama*, which in turn promotes *Kapha* accumulation in the oral cavity. Prolonged intake of excessively sour, pungent, saline and alkaline substances contributes to the vitiation of *Pitta*, ultimately resulting in *Rakta Dushti*, which plays a crucial role in the pathogenesis of *Shitada*.

Behavioral factors also significantly influence disease development. Sleeping in the prone or lateral position, sleeping with the head covered, improper dental hygiene practices, and habitual neglect of oral cleansing are described as important contributors. In addition, improper administration of therapeutic procedures such as *Vamana*, *Virechana*, *Dhumpana* and *Siravedhana* may act as iatrogenic factors, leading to aggravation of *Kapha* and *Rakta*. These practices can alter the structural integrity of the gingiva, predisposing it to inflammation, swelling, bleeding, and *Mukha Durgandhya*.

Among all etiological factors, poor oral hygiene and the habitual intake of *Madhura*, *Guru*, *Ushna* and *Tikshna Aahara* are considered the most significant causes in the manifestation of *Shitada*. Collectively, these *Aaharaja* and *Viharaja Nidana* create a favorable environment for *Kapha* dominance and *Rakta* vitiation, thereby initiating and sustaining the pathological process in the gingival tissues.

### **SAMPRAPTI (PATHOGENESIS)**

The *Samprapti* of *Shitada* begins with continuous exposure to dietary (*Aaharaja*) and behavioral (*Viharaja*) *Nidana*. Repeated indulgence in *Kaphavardhaka*, *Ajirnakaraka* and *Raktadushtikara* factors initially leads to *Agni Mandya*. Impairment of *Agni* results in

improper digestion and metabolism, culminating in the formation of *Ama*. This *Ama* acts as a pathogenic substrate that facilitates *Kapha Dosha Sanchaya* and subsequently leads to *Kapha Dushti*.

Simultaneously, excessive intake of *Amla*, *Katu*, *Lavana* and *Kshara* substances vitiates *Pitta Dosha*, which in turn causes *Rakta Dushti*. Thus, the combined vitiation of *Kapha* and *Rakta* forms the primary pathogenic basis of *Shitada*. Continuous indulgence in causative factors leads to *Dosha Prakopa*, characterized by further aggravation of *Dushta Kapha* along with vitiated *Rakta*. The interaction between *Dushta Rakta* and *Dushta Kapha* intensifies the disease process and promotes pathological progression.

In addition to dietary factors, *Viharaaja Nidana* such as improper oral hygiene (*Danta Dhavana Dwesha*), habitual mechanical trauma to the gums and iatrogenic factors like improper *Vamana*, *Virechana*, *Dhumpana*, and *Siravedhana* directly affect the gingival tissues. These factors cause *Achaya Prakopa* of *Dosha* through direct injury to the *Dantaveshta*, leading to localized inflammation and structural compromise. Continuous irritation and neglect further result in *Dantamala Sanchaya*, which aggravates *Rakta-Kapha Dushti* and contributes to the formation of *Dushit- Rakta* at *Dantamoolgata Sthana*.

Following the stage of *Prasara*, the vitiated *Dosha* ascend towards the *Urdhwajatrugata* region and localize in the *Dantaveshta Ashrita Mamsa* and *Sira*. This stage represents *Sthana Samshraya*, where the susceptible tissues of the gingiva become the site of manifestation. During this phase, prodromal features such as excessive salivation, mild swelling, and *Mukha Durgandhya* may be observed.

As the pathological process progresses, clear clinical manifestations of *Shitada* become evident. These include sponginess of gums, spontaneous bleeding, inflammation, tenderness, halitosis, and gradual gingival recession. Thus, the *Samprapti* of *Shitada* is predominantly governed by *Kapha* and *Rakta* involvement, initiated by *Agni Mandya* and *Ama* formation and localized in the gingival tissues due to continuous exposure to etiological factors.

*Samprapti Ghataka* are describe in table no 1.

### **PURVARUPA**

The classical *Ayurvedic* texts do not explicitly describe specific *Purvarupa* for *Shitada*. In the absence of clearly defined prodromal features, subtle and mild manifestations observed prior

to the full expression of the disease may be considered as *Purvarupa*. These include excessive salivation, mild *Mukha Durgandhya* and an absence or alteration of normal taste perception. Such early changes indicate the initial involvement of *Kapha* and *Rakta* in the gingival tissues and reflect the beginning of pathological processes within the *Dantamoola*. Recognition of these early features is clinically significant, as timely intervention at this stage may prevent disease progression.

## **ROOPA**

The fully manifested clinical features (*Roopa*) of *Shitada* are well described in classical texts by *Acharya Sushruta* and *Acharya Vagbhata*. The cardinal symptom of *Shitada* is *Akasmata Raktasrava*, characterized by spontaneous bleeding from the gums. This is commonly associated with *Mukha Durgandhya*, indicating microbial activity and tissue inflammation. Additional features include *Dantamamsa Prakledana*, denoting excessive moisture of the gingiva and *Dantamamsa Mriduta*, reflecting sponginess and loss of normal gingival firmness.

Progression of the disease may lead to *Krishnata* or discoloration of the gums, inflammatory changes such as *Paka* and *Shirayamana Dantamamsa*, which corresponds to gingival recession. As *Shitada* represents an early stage of *Dantamoolagata Roga*, inadequate or delayed treatment may result in the advancement of pathology into conditions such as *Paridara* and subsequently *Upkusha*, which are more destructive in nature.

From a modern perspective, gingival inflammation initially presents as gingivitis and if left untreated, may progress to chronic periodontitis, involving deeper periodontal structures. This progression ultimately compromises tooth support and may lead to tooth loss. In gingivitis, inflammatory vascular and cellular responses result in alterations in gingival color, contour, consistency, position, and surface texture. Gingival recession observed in advanced stages may be attributed to immune-mediated tissue destruction. Thus, the clinical presentation of *Shitada* closely parallels the early inflammatory changes described in gingival diseases, highlighting its relevance in preventive periodontal care.

## **TREATMENT**

The management of *Shitada* is based on a comprehensive *Ayurvedic* approach aimed at eliminating vitiated *Dosha*, purifying *Rakta*, restoring gingival health, and preventing disease

progression. Therapeutic measures are broadly classified into local (*Sthanik*) and general (*Samanya*) interventions.

Local management plays a pivotal role in the treatment of *Shitada*. Among these measures, *Raktamokshana* is considered the primary line of treatment, as *Rakta Dushti* is a major pathological factor in this condition. *Pracchanna Vidhi* is specifically advocated for *Raktamokshana* in *Shitada*, wherein impure blood is removed locally from the affected gingival region. This procedure helps in reducing inflammation, bleeding, and microbial load, thereby promoting tissue healing. Following *Raktamokshana*, local applications using formulations containing *Triphala*, *Yashtimadhu* (*Glycyrrhiza glabra* Linn.) and *Utpala* (*Nymphaea stellata* Willd.) are administered to pacify residual *Dosha* and enhance tissue regeneration.

*Pratisarana* and *Pralepa* are important local therapeutic procedures employed for strengthening the gums and controlling bleeding and inflammation. Drugs possessing *Kashaya Rasa* and *Sheeta Guna* are preferred due to their *Raktashamaka* and *Stambhana* properties. Commonly used substances include *Musta* (*Cyperus rotundus* Linn.), *Arjuna Twaka* (*Terminalia arjuna* Roxb.), *Triphala* (*Emblica officinalis* Linn., *Terminalia chebula* Retz., *Terminalia bellirica* Roxb.), *Priyangu* (*Callicarpa macrophylla* Vahl.), *Rasanjana*, *Shunthi* (*Zingiber officinale* Mill.), *Shuddha Manahshila* and *Kasisa*, often mixed with honey for enhanced efficacy.

*Gandusha* and *Kavala* therapies are advised to reduce gingival inflammation, improve circulation, and maintain oral hygiene. Decoctions prepared from *Babula Twaka* (*Vachellia nilotica* Linn.), *Musta*, *Arjuna Twaka*, *Triphala*, *Priyangu*, *Rasanjana*, and *Shunthi* are commonly employed. These procedures help in cleansing the oral cavity, reducing edema, and strengthening gingival tissues. As *Shitada* is predominantly a *Kapha*-dominant disorder, *Nasya* therapy is advocated to promote better drug absorption, facilitate *Sira Shuddhi*, and reduce regional *Dosha* accumulation.

General management emphasizes *Nidana Parivarjana*, which is considered the most crucial aspect of treatment. Avoidance of causative dietary and behavioral factors helps prevent further *Dosha* aggravation. Correction of impaired digestion through *Deepana* and *Pachana* therapies is recommended as a preliminary measure. In cases of excessive *Dosha* vitiation,

*Shodhana* procedures such as *Vamana* and *Virechana* may be administered based on patient suitability.

Adherence to appropriate *Pathya* and avoidance of *Apathya* are essential for sustained therapeutic success. Recommended dietary items include *Yava*, *Mudga*, *Kulatha*, light meat soups, *Karavellaka*, *Patola*, *Ushnodaka*, *Tambula*, *Ghrita*, *Khadira*, and substances possessing *Katu* and *Tikta Rasa*. Foods to be avoided include excessive sour items, fish, curd, milk, marshy animal meat, jaggery, *Masha*, dry and hard food items, heavy and sticky diets, excessively cold or hot substances, and excessive intake of salt.

Proper lifestyle practices include regular *Dantadhavana* at least twice daily, gentle cleaning of interdental spaces using *Trina*, routine *Asya Prakshalana* with lukewarm water, and adequate hydration. Activities such as sleeping in the prone position, day sleep, use of non-saline dentifrices, aggressive brushing techniques, scratching of dental cavities and habitual consumption of betel nut or similar substances are strictly contraindicated.

Thus, the management of *Shitada* through a combination of local procedures, systemic therapies, dietary regulation, and lifestyle modification offers a holistic and effective approach for maintaining gingival health and preventing progression to advanced periodontal disorders.

**Table 1: SAMPRAPTI GHATAKA.**

<i>Dosha</i>	<i>Kapha, Rakta</i>
<i>Dushya</i>	<i>Rasa, Rakta, Mamsa</i>
<i>Srotas</i>	<i>Rasavaha, Raktavaha and Mamsavaha Srotas</i>
<i>Srotodushti</i>	<i>Sanga, Atipravritti</i>
<i>Agni</i>	<i>Jatharagni, Dhatvagni Mandhya</i>
<i>Udbhava Sthana</i>	<i>Amashaya</i>
<i>Adhithana</i>	<i>Mukha</i>
<i>Vyaktisthana</i>	<i>Dantaveshtagata</i>
<i>Sadhyata Asadhyata</i>	<i>Sadhya</i>

## DISCUSSION:

A critical appraisal of classical *Ayurvedic* literature along with contemporary scientific evidence establishes *Shitada* as an early and clinically significant *Dantamoolagata Roga*, closely comparable to gingival inflammation described in modern periodontology. The present analysis highlights that the etiopathogenesis of *Shitada* is predominantly governed by the vitiation of *Kapha* and *Rakta*, precipitated by impaired *Agni*, *Ama* formation, poor oral hygiene and unfavorable dietary and behavioral practices.

The therapeutic principles elucidated in *Ayurveda* emphasize early intervention through *Nidana Parivarjana*, *Shodhana* and *Shamana* measures to arrest disease progression. Among these, *Raktamokshana* performed through *Pracchanna Vidhi* emerges as a cornerstone therapy due to its direct action on *Rakta Dushti*, leading to reduction in gingival inflammation, bleeding and local tissue congestion. When combined with local therapies such as *Pratisarana*, *Pralepa*, *Gandusha*, *Kavala* and *Nasya*, a synergistic effect is achieved that enhances plaque control, reduces microbial burden, modulates inflammatory responses and promotes gingival tissue regeneration.

The use of classical formulations such as *Triphala Priyangu* and other *Kashaya Rasa* dominant drugs demonstrates significant anti-inflammatory, antimicrobial, and tissue-strengthening properties, supporting both preventive and curative aspects of gingival care. Integration of scientifically validated oral hygiene practices, including appropriate brushing techniques, further strengthens therapeutic outcomes.

*Gandusha*: *Gandusha* is a therapeutic procedure in which a medicated liquid is retained in the oral cavity to its maximum capacity for a prescribed duration without movement, followed by expulsion. The retention of liquid exerts uniform mechanical pressure on the gingiva, aiding in the dislodgement of impacted food particles and facilitating the mixing and dilution of adherent biofilm within the fluid. This mechanical effect also stimulates salivary secretion, which plays a vital role in maintaining the physiological pH of the oral cavity.

Maintenance of normal oral pH creates an unfavorable environment for pathogenic microorganisms and supports natural healing processes. Additionally, increased salivary flow enhances cleansing action, reduces halitosis, and alleviates gingival moistness and sponginess. The pharmacological properties of medicated liquids used in *Gandusha* further contribute to anti-inflammatory, antimicrobial, and tissue-strengthening effects. From a

modern perspective, these actions collectively support reduction of gingival inflammation, stabilization of vascular responses and improvement in epithelial integrity.

*Pratisarana:* *Pratisarana* involves the local application and gentle rubbing of medicated substances over the gingiva, producing controlled mechanical pressure in the direction of the gingival sulcus. This mechanical action aids in the removal of food debris, dental plaque, and superficial calculus, which are primary etiological factors in gingival inflammation. The disruption of adherent biofilm limits microbial colonization and reduces bacterial toxins responsible for inflammatory responses. Gingival massage during *Pratisarana* stimulates epithelial and connective tissue cells, enhancing cellular turnover and promoting gingival regeneration. This process supports keratinization of the gingival epithelium and may modulate vascular permeability, cellular infiltration, and immune responses, thereby retarding the inflammatory cascade.

Drugs selected for *Pratisarana* are ideally endowed with *Katu* and *Kashaya Rasa*, *Laghu* and *Ruksha Guna* and *Ushna Virya*. These properties collectively impart *Shodhana*, *Lekhana*, *Kleda Shoshaka*, *Raktastambhaka* and *Shothahara* effects. At the tissue level, such actions may be correlated with reduction of edema, control of bleeding, and strengthening of gingival tissues, ultimately enhancing local defense mechanisms against microbial insult.

*Nasya:* *Nasya Karma* plays a supportive role in the management of *Shitada*, particularly due to the predominance of *Kapha*. Following nasal administration, the medicated substances spread to the *Murdha* region, where they facilitate the liquefaction and expulsion of morbid *Dosha* through the nasal passages. By reducing *Kapha* accumulation, *Nasya* contributes to the alleviation of gingival swelling, excessive salivation and halitosis. The *Shodhana* action of *Nasya* helps in clearing microchannels (*Srotasa*) of the supraclavicular region, including *Dantamoola*, while its *Snehana* effect nourishes and strengthens the structures of the head and neck region, including the oral cavity. This dual action may be interpreted as improvement in tissue nutrition and restoration of physiological balance in gingival tissues.

*Raktamokshana:* In the management of *Shitada*, *Raktamokshana* is considered a principal therapeutic intervention due to the predominant involvement of vitiated *Rakta*. *Pracchanna Karma* is indicated when the morbid *Dosha* are localized in *Twaka* and *Rakta* and remain in a vitiated state. Controlled removal of impure blood from the affected gingival area facilitates the elimination of inflammatory mediators and stagnant blood, thereby reducing local

congestion and bleeding. This process enhances fresh blood circulation, improves oxygenation and promotes regeneration of gingival tissues. From a contemporary viewpoint, this may be correlated with improved microcirculation and reduction of inflammatory load at the local site, leading to resolution of gingival inflammation.

Overall, the therapeutic modalities employed in the management of *Shitada* act synergistically by eliminating etiological factors, reducing microbial load, modulating inflammatory responses and promoting gingival regeneration. The integrated approach of local purification, mechanical stimulation, and systemic regulation offers a comprehensive framework for controlling gingival inflammation and preventing progression to advanced periodontal disease.

## **CONCLUSION**

The present review establishes *Shitada* as an early manifestation of *Dantamoolagata Roga* with close clinical and pathological similarity to gingival inflammation described in Contemporary periodontology. Classical *Ayurvedic* concepts attribute its pathogenesis primarily to the vitiation of *Kapha* and *Rakta*, compounded by impaired *Agni*, *Ama* formation and inadequate oral hygiene. Therapeutic measures such as *Raktamokshana* by *Pracchanna Vidhi*, along with local interventions including *Pratisarana*, *Gandusha* and *Nasya*, effectively address both etiological factors and tissue-level pathology. The use of *Kashaya Rasa*-dominant formulations contributes to anti-inflammatory, antimicrobial and regenerative effects on gingival tissues. Integration of appropriate oral hygiene practices with classical *Ayurvedic* treatment principles aligns with the interdisciplinary approach advocated by *Acharya Charaka*. Overall, *Ayurvedic* management provides a holistic, preventive and clinically relevant framework for the effective management of *Shitada* and related periodontal disorders. Its emphasis on early diagnosis, individualized therapy and lifestyle regulation underscores its relevance in contemporary periodontal care and warrants further clinical and experimental exploration.

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