



## DANTAHARSHA: AN AYURVEDIC PERSPECTIVE ON COLD-INDUCED DENTAL HYPERSENSITIVITY

<sup>1</sup>\*Dr. Akshay Balu Pagare, <sup>2</sup>Dr. Tushar V. Firke

<sup>1</sup>\*Designation – PG Scholar in Department of Shalaky Tantra, SMBT Ayurved College Dhamangoan Igetpuri Nashik.  
<sup>2</sup>Guide and Professor in Department of Shalaky Tantra, SMBT Ayurved College Dhamangoan Igetpuri Nashik.



**\*Corresponding Author: Dr. Akshay Balu Pagare**

Designation – PG Scholar in Department of Shalaky Tantra, SMBT Ayurved College Dhamangoan Igetpuri Nashik.

DOI: <https://doi.org/10.5281/zenodo.19280540>



**How to cite this Article:** <sup>1</sup>\*Dr. Akshay Balu Pagare, <sup>2</sup>Dr. Tushar V. Firke (2026). Dantaharsha: An Ayurvedic Perspective On Cold-Induced Dental Hypersensitivity. European Journal of Biomedical and Pharmaceutical Sciences, 13(4), 31–34.  
This work is licensed under Creative Commons Attribution 4.0 International license.

Article Received on 03/03/2026

Article Revised on 23/03/2026

Article Published on 01/04/2026

### ABSTRACT

*Dantaharsha* is a clinical condition meticulously documented in ancient Ayurvedic texts, particularly within the *Shalaky Tantra* (specialty of supra-clavicular diseases). It presents as a hypersensitive response of the teeth to external stimuli such as cold (*Sheeta*), wind (*Vata*), and sour substances (*Amla*), bearing a direct clinical correlation to modern Dentin Hypersensitivity (DH). In Ayurveda, this condition is recognized as a *Vata*-dominant disorder where the "unctuousness" (*Sneha*) of the dental structure is depleted, leading to the exposure of the sensitive inner matrix. Modern science explains this phenomenon through the Hydrodynamic Theory, involving the movement of fluid within dentinal tubules. This academic article explores the multifaceted dimensions of *Dantaharsha*, ranging from its classical *Nidana* (etiology) and *Samprapti* (pathogenesis) to its management through *Gandusha* (oil pulling), *Kavala* (gargling), and *Pratisarana* (local application). By integrating traditional *Vata-shamaka* protocols with contemporary understanding of tubule occlusion, this review highlights the efficacy of Ayurvedic interventions like *Irimedadi Taila* and *Tiladi Gandusha* as sustainable alternatives to synthetic desensitizers.

**KEYWORDS:** Dantaharsha, Dentin Hypersensitivity, Vata Dosha, Irimedadi Taila, Gandusha, Hydrodynamic Theory, Shalaky Tantra.

## 1. INTRODUCTION

### 1.1 Defining Dantaharsha

The term *Dantaharsha* originates from the Sanskrit roots *Danta* (tooth) and *Harsha* (shivering, tingling, or morbid sensation). According to the *Sushruta Samhita*, the foundational text of Ayurvedic surgery, *Dantaharsha* is a condition where teeth become incapable of enduring cold, wind, sour tastes, and mechanical touch.<sup>[1]</sup> It is categorized as one of the eight *Dantagata Rogas* (diseases of the teeth).<sup>[2]</sup>

### 1.2 Modern Clinical Correlation

In modern dentistry, this condition is identified as Dentin Hypersensitivity (DH). It is defined as a short, sharp pain arising from exposed dentin in response to stimuli—typically thermal, evaporative, tactile, osmotic, or chemical—which cannot be ascribed to any other dental pathology.<sup>[3]</sup> The clinical hallmark is the "transient"

nature of the pain, which ceases once the stimulus is removed.

### 1.3 Historical Perspective

Ancient Ayurvedic sages recognized that oral health is not isolated from systemic physiology. The teeth are considered an *Upadhatu* (secondary tissue) of *Asthi Dhātu* (bone tissue).<sup>[4]</sup> Consequently, the health of the teeth is inextricably linked to the balance of *Vata Dosha*, which naturally resides in the bones. The classical descriptions provided by Acharya Vagbhata in *Ashtanga Hridaya* further refine the symptomology, emphasizing the "tingling" sensation that disrupts the mastication of food.<sup>[5]</sup>

### 1.4 Prevalence and Impact

Globally, dental hypersensitivity affects approximately 3% to 35% of the population, with a peak incidence in

the age group of 20–50 years.<sup>[6]</sup> It significantly impacts the quality of life, leading to changes in dietary habits and oral hygiene neglect, which in turn can lead to secondary periodontal issues.

## 2. NEED OF THE STUDY

To analyze the Ayurvedic pathogenesis of *Dantaharsha* and establish its scientific correlation with modern hydrodynamic principles, providing a descriptive, evidence-based review of traditional management for long-term clinical relief.

## 3. REVIEW OF LITERATURE

### 3.1 Anatomical Considerations

- **Ayurvedic View:** The tooth is composed of *Prithvi* (Earth) and *Tejas* (Fire) elements, providing it with hardness and luster. The sensitivity is perceived through the *Sira* (nerves/vessels) located in the *Dantamoola* (roots).<sup>[7]</sup>
- **Modern View:** The tooth structure consists of Enamel, Dentin, and Pulp. Dentin contains thousands of microscopic channels called dentinal tubules, which serve as a communication bridge between the oral environment and the pulp.<sup>[8]</sup>

### 3.2 Etiology (Nidana)

The causes of *Dantaharsha* are multifaceted and are classified into dietary, behavioral, and constitutional factors:

- **Aharaja (Dietary):** Excessive intake of *Ati-Amla* (highly acidic or sour foods), *Ati-Sheeta* (ice-cold drinks), and *Ruksha Ahara* (dry, unctuous-less food) which aggravate *Vata*.<sup>[9]</sup>
- **Viharaja (Behavioral):** *Vishamadhovana* (faulty or aggressive brushing), chewing on hard items

(*Dantagharsha*), and lack of oral hygiene leading to gingival recession.<sup>[10]</sup>

- **Agantuja (External):** Trauma to the teeth or exposure to very cold winds (*Pravata*).

### 3.3 Pathogenesis (Samprapti)

The *Samprapti* (disease progression) of *Dantaharsha* centers on the vitiation of *Vata* and *Pitta Doshas*:

1. **Sanchaya (Accumulation):** Due to *Nidana Sevana* (causative factors), *Vata* (specifically *Vyana Vayu*) accumulates in the oral cavity.
2. **Prakopa (Aggravation):** The *Ruksha* (dry) and *Sheeta* (cold) qualities of *Vata* increase, leading to the depletion of the protective *Sneha* (natural oils/fats) of the teeth.<sup>[11]</sup>
3. **Sthana Samsraya (Localization):** The vitiated *Vata* localizes in the *Danta* and *Dantamoola*.
4. **Vyakti (Manifestation):** This results in *Khavaigunya* (structural deficiency) of the enamel and dentin, allowing external stimuli to reach the internal *Sira* (nerves), causing the characteristic tingling sensation (*Harsha*).<sup>[12]</sup>

### 3.4 The Hydrodynamic Theory: Scientific Correlation

Proposed by Brannström, the Hydrodynamic Theory is the most widely accepted explanation for DH. It suggests that when dentin is exposed, stimuli cause a rapid movement of fluid within the dentinal tubules. This fluid shift creates pressure changes that excite the baroreceptors of the A-delta nerve fibers in the pulp, resulting in sharp pain.<sup>[13]</sup> This fluid movement is a clinical manifestation of the *Chala Guna* (mobile quality) of *Vata Dosha*.<sup>[14]</sup>

**Table 1: Comparison of Ayurvedic and Modern Perspectives.**

Feature	Dantaharsha (Ayurveda)	Dentin Hypersensitivity (Modern)
Primary Dosha	<i>Vata</i> (and <i>Pitta</i> )	Nerve fiber activation (A-delta)
Tissue Involved	<i>Asthi Upadhatu</i> (Teeth)	Dentin and Pulpal complex
Main Trigger	<i>Sheeta</i> (Cold) and <i>Amla</i> (Sour)	Thermal and Chemical stimuli
Pathology	Depletion of <i>Sneha</i> (Unctuousness)	Exposure of dentinal tubules
Mechanism	<i>Vata Prakopa</i> (Excess mobility)	Fluid movement (Hydrodynamics)

## 4. Statistical Analysis and Clinical Evidence

Clinical studies exploring Ayurvedic interventions have shown statistically significant results:

- **Study on Irimedadi Taila:** A clinical trial involving 60 patients demonstrated that *Gandusha* (oil pulling) with *Irimedadi Taila* resulted in a 72.5% reduction in sensitivity to cold water within 21 days ( $p < 0.001$ ).<sup>[15]</sup>
- **Comparative Analysis:** Research comparing *Tiladi Gandusha* with potassium nitrate toothpaste showed that while the toothpaste provided faster initial relief, the Ayurvedic group showed significantly better long-term results and lower recurrence rates at a 3-month follow-up.<sup>[16]</sup>

- **Effect on Schiff Scale:** Significant reduction in the Schiff Cold Air Sensitivity Scale was observed across multiple studies utilizing *Yashtimadhu* and *Tila Taila* based protocols.<sup>[17]</sup>

## 5. DISCUSSION

### 5.1 The Role of Vata in Dental Integrity

In Ayurveda, *Vata* is the governor of all sensory perceptions. When *Vata* is in its physiological state (*Prakrita*), it maintains the integrity of the *Srotas* (channels). However, when it becomes *Vaikrita* (vitiated) due to cold or acidity, its *Ruksha* (dry) property causes micro-cracks and increased porosity in the dental structure. This aligns with the modern understanding of enamel wear and tubule exposure.

## 5.2 Therapeutic Mechanisms of Ayurvedic Procedures

- **Gandusha (Oil Pulling):** This involves filling the mouth with medicated oil. The pressure generated during *Gandusha* facilitates the penetration of lipid-soluble active ingredients into the dentinal tubules.<sup>[18]</sup> It creates a hydrophobic coating that prevents the rapid fluid movement described in the Hydrodynamic Theory.
- **Kavala (Gargling):** Unlike *Gandusha*, *Kavala* involves movement of the liquid, which helps in the mechanical cleaning of the interdental spaces and strengthening the gingival attachment (*Dantamoola*).<sup>[19]</sup>
- **Pratisarana (Topical Application):** Rubbing medicated powders or pastes (like *Dashanaprakshalanachurna*) on the teeth helps in local *Vata-shamana* and provides a physical barrier over exposed dentin.<sup>[20]</sup>

## 5.3 Pharmacodynamics of Key Ingredients

- **Irimeda (Acacia farnesiana):** Known for its *Stambhana* (astringent/hemostatic) and

*Vranaropana* (healing) properties. The tannins in *Irimeda* act as protein precipitants, which can physically plug the open ends of dentinal tubules, mirroring the action of modern chemical occluding agents.<sup>[21]</sup>

- **Tila Taila (Sesame Oil):** The base of most Ayurvedic dental oils. It is high in calcium and antioxidants. Its *Snehana* property directly counteracts the *Rukshata* of *Vata*, nourishing the dental pulp and periodontium.<sup>[22]</sup>
- **Yashtimadhu (Glycyrrhiza glabra):** It has *Madhura* (sweet) taste and *Sheeta* (cold) potency, which pacifies both *Vata* and *Pitta*. Its glycyrrhizin content acts as a natural anti-inflammatory agent, reducing pulpal irritation.<sup>[23]</sup>

**Table 2: Key Ayurvedic Formulations for Dantaharsha.**

Formulation	Ingredients	Method of Use	Action
<b>Irimedadi Taila</b>	<i>Irimeda, Khadira, Manjistha</i>	<i>Gandusha</i>	Tubule occlusion and gum strengthening.
<b>Dashamoola Kwatha</b>	Ten medicinal roots	<i>Kavala</i>	Analgesic and <i>Vata-shamaka</i> .
<b>Kshirabala Taila</b>	<i>Bala, Tila Taila</i> , Milk	<i>Gandusha</i>	Nourishment of <i>Asthi Dhātu</i> and nerve soothing.
<b>Tiladi Churna</b>	<i>Tila</i> (Sesame), <i>Yashtimadhu</i>	<i>Pratisarana</i>	Remineralization and sensitivity reduction.

## 5.4 Lifestyle and Preventive Management (Pathya-Apathya)

Ayurvedic management is incomplete without lifestyle modifications. Patients are advised to avoid *Vata-wardhaka* habits such as excessive consumption of carbonated drinks and very hard foods. The use of lukewarm water for rinsing and the adoption of *Dincharya* (daily regimen) practices like *Jihwa Nirlekhana* (tongue scraping) and *Snehagandusha* are recommended to maintain the "Snehana" of the oral cavity.<sup>[24]</sup>

## 6. CONCLUSION

- **Clinical Relevance:** *Dantaharsha* is a perfectly described ancient equivalent to Dentin Hypersensitivity. The Ayurvedic perspective provides a deeper understanding of the condition by linking local dental symptoms to systemic *Vata* imbalances.
- **Efficacy of Tradition:** Traditional methods like *Gandusha* with *Irimedadi Taila* offer a dual-action mechanism: they provide immediate physical relief by occluding dentinal tubules and offer long-term biological benefits by nourishing the periodontium and pulp.

- **Modern Integration:** Integrating Ayurvedic *Vata-shamaka* therapies with modern dental hygiene can reduce the dependency on chemical desensitizers, which often provide only transient relief.
- **Summary:** The holistic approach of Ayurveda—encompassing diet (*Ahara*), lifestyle (*Vihara*), and specific therapies (*Chikitsa*)—presents a comprehensive solution for cold-induced dental hypersensitivity. Further molecular studies are warranted to explore the remineralization potential of these Ayurvedic herbs at the microscopic level.

## REFERENCES

1. Shastri AD. *Sushruta Samhita* of Maharshi Sushruta, Nidana Sthana; Ch. 16, Ver. 14. 14th ed. Varanasi: Chaukhambha Sanskrit Sansthan, 2003; 334.
2. Murthy KR. *Ashtanga Hridaya* of Vagbhata, Uttara Sthana; Ch. 21, Ver. 18. 5th ed. Varanasi: Krishnadas Academy, 2001; 198.
3. Holland GR, Narhi MN, Addy M, Giedrys-Leeper E, Orchardson R, Orchardson R. Guidelines for the design and conduct of clinical trials on dentine hypersensitivity. *J Clin Periodontol.*, 1997; 24(11): 808-13.
4. Sharma PV. *Charaka Samhita* of Agnivesha, Chikitsa Sthana; Ch. 15, Ver. 18-20. Varanasi: Chaukhambha Orientalia, 2005; 256.

5. Paradkar HS. *Ashtanga Hridaya* with Sarvangasundara and Ayurvedarasayana commentaries. Varanasi: Chaukhambha Orientalia, 2012; 851.
6. Addy M. Dentine hypersensitivity: New perspectives on an old problem. *Int Dent J.*, 2002; 52(S5P2): 367-75.
7. Shalakya Tantra. In: Pandey GS, editor. *Bhavaprakasha of Bhava Mishra*. Vol 2. Varanasi: Chaukhambha Bharati Academy, 2004; 521.
8. Trowbridge HO, Silver DR. A review of current approaches to in-office management of dentin hypersensitivity. *Dent Clin North Am.*, 1990; 34(3): 561-81.
9. Upadhyaya Y. *Madhava Nidanam* (Vidyotini Hindi Commentary). 31st ed. Varanasi: Chaukhambha Sanskrit Sansthan, 2002; 234.
10. Kumar S. *Textbook of Shalakya Tantra*. 1st ed. Delhi: Chaukhambha Sanskrit Pratishthan, 2005; 412.
11. Sharma S. *Ashtanga Sangraha* of Vagbhata, Uttara Sthana; Ch. 25. Varanasi: Chaukhambha Sanskrit Series, 2006; 112.
12. Tewari PV. *Kashyapa Samhita* (Vridha Jivakiya Tantra). Varanasi: Chaukhambha Visvabharti, 2002; 182.
13. Brännström M. A hydrodynamic mechanism in the transmission of pain produced by sensitization of dentin. *J Dent Res.*, 1963; 42(1): 112-22.
14. Tripathi B. *Charaka Samhita*, Sutra Sthana; Ch. 1, Ver. 59. Varanasi: Chaukhambha Surbharati Prakashan, 2011; 45.
15. Patil AA, Katti G. Clinical evaluation of Irimedadi Taila Gandusha in Dantaharsha. *AYU.*, 2014; 35(2): 162-67.
16. Sharma N, et al. Comparative study of Tiladi Gandusha and a desensitizing toothpaste in the management of Dantaharsha. *J Ayurveda Integr Med.*, 2018; 9(3): 210-15.
17. Schiff T, et al. Efficacy of a herb-based dentifrice in reducing dental hypersensitivity. *J Clin Dent.*, 2009; 20(Spec Iss): 131-36.
18. Singh A, Purohit B. Tooth brushing, oil pulling and tissue regeneration: A review of holistic approaches. *J Ayurveda Holist Med.*, 2013; 1(2): 2-10.
19. Hebbar A, et al. Oil pulling and oral health: A review. *J Int Soc Prev Community Dent.*, 2016; 6(Suppl 1): S9-S14.
20. Vagbhata. *Ashtanga Hridaya*, Sutra Sthana; Ch. 22. Varanasi: Chaukhambha Orientalia, 2012; 310.
21. Khare CP. *Indian Medicinal Plants: An Illustrated Reviews*. Berlin: Springer, 2007; 4.
22. Nagendra N, et al. Effect of oil pulling on plaque and gingivitis. *J Indian Soc Pedod Prev Dent.*, 2008; 26(1): 12-17.
23. Messier C, et al. Licorice and its potential beneficial effects in common oro-dental diseases. *Oral Dis.*, 2012; 18(1): 32-39.
24. Sharma H, Clark C. *Contemporary Ayurveda*. Philadelphia: Churchill Livingstone, 1998; 145.