



## ROLE OF AYURVEDA IN THE PAIN MANAGEMENT OF *KRIMIDANTA* (DENTAL CARRIES)

Divyarani Kathad<sup>\*1</sup>, Hemangi Shukla<sup>2</sup> and Jitendra Varsakiya<sup>3</sup>

<sup>1</sup>MS Scholar, PG Department of Shalakya Tantra, Akhandanand Ayurved College, Ahmedabad.

<sup>2</sup>Associate Professor, PG Department of Shalakya Tantra, Akhandanand Ayurved College, Ahmedabad.

<sup>3</sup>Assistant Professor, Department of Kayachikitsa, CBPACS, Najafgarh, Khera Dabar, New Delhi 110073.

**\*Corresponding Author: Dr. Divyarani Kathad**

MS Scholar, PG Department of Shalakya Tantra, Akhandanand Ayurved College, Ahmedabad.

Article Received on 24/01/2019

Article Revised on 14/02/2019

Article Accepted on 06/03/2019

### ABSTRACT

**Background:** Burden of Oral diseases are conceivably, the most widespread of all diseases prevalent in the world. No population is free from caries and periodontal diseases – the most common of all such diseases and affecting almost 80% of the population. The disease *Krimi Danta* is mainly caused by vitiated *Vata* along with vitiated *Kapha* and *Pitta*. There is a lot that can go wrong to cause ill health and damage to the teeth. Poor oral hygiene leads to tooth decay, not to speak of bad breath and other dental ailments, while proper oral care does significantly reduce the chances of cavities and periodontal disease. Disease can be managed by various types of *Pratisāraṇa* i.e. local applications of various drugs into the cavity and *Danta Chhidratapurana* with *Arka Ksheera*, *Saptaparni Churna* is used to alleviate the pain and to remove the *Krimi*. **Aims & Objectives:** To evaluate the efficacy of *Ayurveda* drugs in Pain management of *Krimi Danta*. **Material & Method:** Relevant *Ayurveda* and Modern literature, available information on internet etc. were searched. The results on search are described hereafter. **Conclusion:** A decent level of oral hygiene can help protect our teeth against plaque, sticky substance that forms on the teeth. References regarding treatment and remedies mention in *Ayurveda* like *Danta Dhoopan*, *Lepa*, *Gandoosh*, *Nasya*, *Dravya pooran*, *Swedan* can be adopted for the Pain management of *Krimi Danta*.

**KEYWORDS:** *Ayurveda*, Dental carries, *Krimidanta*, Pain management.

### INTRODUCTION

Oral diseases are the most common non-communicable diseases (NCDs) and affect people throughout their lifetime, causing pain, discomfort, disfigurement and even death. In developing countries like India, Dental caries is public health problem. The Global Burden of Disease Study 2016 estimated that oral diseases affected half of the world's population (3.58 billion people) with dental caries (tooth decay) in permanent teeth being the most prevalent condition assessed.<sup>[1]</sup> The area of dental caries prevalence is of great interest to local and international researchers, which can be indicated by a number of studies that have been performed in developed and developing countries regarding caries' prevalence.<sup>[2]</sup> Dental caries is one of the chief problems in dentistry and it is one of the most common causes for people to visit dental clinics. Majority of the population would have suffered with tooth ache at some time in their life. Tooth ache is the most common type of oro-facial pain and cardinal symptom of dental caries. Since there may be significant impact on sleep, eating and other daily activities it is necessary to manage pain first.

Eating and speaking can become virtually impossible without proper care of our teeth. There is a lot that can go wrong to cause ill health and damage to the teeth. Poor oral hygiene leads to tooth decay, not to speak of bad breath and other dental ailments<sup>[3]</sup>, while proper oral care does significantly reduce the chances of cavities and periodontal disease increasing trend in oral diseases of late can be attributed to the rapid changes in dietary habits and lifestyles only possible solution to the problem is "prevention".

The treatment of Knutson's technique is widely recommended for topical application of sodium fluoride to the teeth. Unfortunately the effectiveness of topical fluoride administration is questioned. An operative procedure such as filling and R.C.T. techniques has its own limitation. Thus this disease poses a challenge to the Dentists. All these facts leave a scope to search the ancient material medica to find out comparatively better solutions to the problem. On the basis of clinical features, dental caries can be compared with *Krimidanta* which is one among eight diseases of teeth. In modern, treatment for dental caries includes dental restoration (RCT/filling) and tooth extraction. Both these treatments

cannot be adopted if there is pain. Therefore, to manage pain first there is need for prescription of pain killers. Though studies have proved the side effects of it like anxiety, trouble sleeping, liver disease, nausea, kidney disease, weakness etc. Hence herbal medicine can be choice of drug of the disease. In *Ayurvedic* classics, a good number of remedies like *Danta Dhoopan*, *Lepa*, *Gandoosh*, *Dravya pooran* are described for pain relieving in *Krimidanta*.<sup>[4]</sup>

### AIMS AND OBJECTIVES

To review the efficacy of *Ayurveda* drugs in Pain management of *Krimidanta*.

### MATERIAL AND METHODS

To fulfil aims and objectives relevant *Ayurveda* and Modern literature, available information on internet etc. were searched.

### DISCUSSION

Dental caries defined as progressive destruction of enamel, cementum, initiated by microbial activity at the surface of tooth.<sup>[5]</sup> Dental caries a microbial disease of calcified tissue of tooth, resulting into demineralization of the inorganic portion and destruction of organic structure of the tooth. Tooth ache with difficulty in chewing, sensitivity, pits in the affected tooth, halitosis and discoloration of teeth are the major symptoms of disease. Dental carries defined as localized post eruptive pathological process of external origin involving softening of hard tissue and proceeding to the formation of cavity.<sup>[6]</sup> According to *Ayurvedic* classics, The disease in which the teeth have black colour, have cavities and become mobile, pus & blood discharge, swelling and bouts of severe pain without any apparent cause is called as *Krimidanta* caused by vitiated *Vata* along with vitiated *Kapha* and *Pitta*.<sup>[7]</sup>

### SAMPRAPTI<sup>[8]</sup>

In *Krimidanta Dosh Prakopa* occurs by various *Nidan Sevan* and *Dushita Ras- Rakta* interacts with *Dushita Vatadi Dosh* and finally ascend to *Urdhawajatru* and localized in *Danta*. As *Prakrit Vata* helps to do *Dharana* of *Asthi*, if vitiated causes its destruction. So *Asthi-Majja Kshaya* occur and *Shushirata* developed in *Danta*. If patient does not maintain proper oral hygiene, *Annamala* accumulates in destructed tooth which leads to *Kledata* and *Krimi*. These *krimi* again developes *Khushirata* in *Danta* and leads to *Dantaskhaya*. In this stage, cavity formation, discoloration, *danta shoola* occurs and lastly in *Bhedavastha – puyastrava, chala danta* take place.

*Nidan sevan* → *Vata dosha*  
*prakopa* → *Urdhvagamana & Danta aashrita Tridosha + Rasa, Rakta Dushya* → Due to *Vata Dosh*  
*Shoshan* → *Asthi, Majja kshaya &*  
*Shushirata* → *Annamala purana* → *Bhakshana* of  
*Danta & Chidra* → *Dantaskhaya*

### TREATMENT

As per *Ayurveda*, treatment of *Krimidanta* can vary with the condition of tooth. If immobile tooth do bloodletting, followed by *Gandoosh* (oil pulling) with medicated oil, *Avapeeda Nasya* and *Bhadra Darvadi Lepa*<sup>[9]</sup> and temporary filling of cavity with *Madhuchista* (bee wax) or *Guda*(Jeggary) followed by *Dahan Karma*. If mobile tooth extract tooth and do *Dahan Karma* at that site.<sup>[10]</sup>

For pain management due to *Krimidanta*:

- Keep the *varti* in the mouth made with *Hingu, Katphala, Kaseesa, Sarjakshara, Kusta* and *Vidanga*.<sup>[11]</sup>
- *Gandoosha* with medicated oil prepared from *hingu, katphala, kaseesa, sarjakshara, Kusta* and *Vidanga, Brahtyadi Kawath*.
- *Nasya* with medicated oil prepared from *Vidari, Yashtimadhu, Kasheruk, Shrungatak* mixed in 10 times its volume of milk.<sup>[12]</sup>
- *Danta Chhidratapurana* with *Arka Ksheera, Saptarni Churna, Hingu*.<sup>[13]</sup>
- *Dhoopana* with the seeds of *Kantakaribeeja*
- *Lepa* with *Bhadradarvadi* and *Punarnavadi Gana*
- Application of Clove Oil
- *Swedan* with *krimighna, vataghna* and *ushnaveerya dravyas*

### Mode of action

*Hingu*<sup>[14]</sup> has *Katu Rasa, Ushna Veerya, Tikshna Guna* and *Umbelliferon* is an active ingredient, which act as sedative. Also ferulic acid content of *Hingu* has Anti-cancer, Anti-inflammatory, Anti-mutagenic, antineoplastic, Anti-tumor, Antiviral, Anti-bacterial, Anti-spasmodic. *Lavanaga* has growth inhibitory activity in oral pathogens and eugenol which is mild anaesthetic.<sup>[15]</sup> *Sarsapa* and turmeric<sup>[16]</sup> have analgesic, anti-inflammatory and antiseptic properties. *Vidanga* has *Shodhaka, Lekhana, cleansing effect*.<sup>[17]</sup> These drugs will act as analgesic and anti-inflammatory.

All drugs mentioned for pain management in *Krimidanta* having *Katu, Tikta, Kashaya Rasa and Laghu, Snigdha, Tikshana Guna, Krimighna, Vataghna, Vedanahara, Shothahara, Shoola prashaman* and *Ushna veerya* properties. It leads *Vata Dosh shaman* resulting into *shoola Prashamana*(pain) as *Vata* is reason of pain.

### Diet and lifestyle modification

*Nidana Parivarjana* is the first line of treatment as well as prevention of disease.<sup>[18]</sup> Proper oral hygiene and diet pattern reduces the occurrence of dental caries. Use *Katu, Tikta, Ushna & Snigdha Ahara Dravyas* having *Mukha Shodhaka*<sup>[19]</sup> and cleansing properties. People should be to eat whole fruit rather than making juice of it to restrict further addition of sugar into it and stimulates saliva. Avoid alcohol and medicines which decreases stimulation of saliva. Take enough water otherwise will suffer from dryness of mouth & become susceptible for caries (in case of dry mouth contact period of acids to teeth increases which makes great damage). Proper

brushing should be performed after waking up in the morning as well as after each meal. To keep clean mouth without any food debris, *Susruta* advocates drinking water in between and at the end of meal. Interdental space should be cleaned by using *Trina* etc. Here the concept of toothpick is mentioned first time by *Susruta*. Removal of *Dantasarkara* – because microorganisms in plaque are the main etiological factors in dental disorders. Lastly proper treatment of worm should be given specially in paediatric pts. To minimise the chances of caries in subsequent permanent teeth.

## CONCLUSION

Based on the clinical signs and symptoms, the disease *Krimidanta* can be correlated with Dental caries. *Krimidanta* is *Vata Pradhana Tridoshaja Vyadhi*. It can be concluded that Ayurvedic single and poly-herbal preparations and procedures like *Lepa*, *Gandoosha*, effective in the *Ruja*(pain), *Sarambha* (Inflammation), pH, microbial count, Bad Breath by its different properties ultimately reduces pain. Proper oral hygiene and dietary habits can play major role in the prevention of the disease.

## REFERENCES

1. <https://www.who.int/news-room/factsheets/detail/oral-health>, accessed date 27 february-2019.
2. McGrady MG, Ellwood RP, Maguire A, Goodwin M, Boothman N, Pretty IA BMC Public Health, 2012 Dec 28; 12: 1122.
3. <https://medbroadcast.com/condition/getcondition/tooth-decay-and-toothache>, accessed date 27 february-2019.
4. Maharshi Sushruta, Sushruta Samhita, Nidana Sthana Adhyaya 16/ 40, Ayurved-Tatva Sandipika Hindi commentary by Kaviraj Ambikadatt Shastri, Chaukhambha Sanskrit Samsthan, Varanasi. Reprinted 2010 page no; 256.
5. Mansuri, Makbul. and Rajagopala, Manjusha. and Bavalatti, Narayan, A clinical study on Krimidanta with reference to dental caries and its management with *Jatipatradi Gutika* and *Yavanadi Churna*, AYU (An international quarterly journal of research in Ayurveda, 31(2): 224-227.
6. Shafer, Hine, Levy. Shafer's textbook of Oral pathology. 6<sup>th</sup> edition. Elsevier, 2009.
7. Maharshi Sushruta, Sushruta Samhita, Nidana Sthana Adhyaya 16/31, Ayurved-Tatva Sandipika Hindi commentary by Kaviraj Ambikadatt Shastri, Chaukhambha Sanskrit Samsthan, Varanasi. Reprinted, 2010; 385.
8. *Vahata or Vriddha Vagbhata, Ashtanga Hridayam*; dr. Brahmananda Tripathi, Chaukhambha Sanskrit Pratishthana, Uttartantra 21/18-19, page no. 1025.
9. Maharshi Sushruta, Sushruta Samhita, Chikitsa Sthana Adhyaya 22//32-40, Ayurved-Tatva Sandipika Hindi commentary by Kaviraj Ambikadatt Shastri, Chaukhambha Sanskrit Samsthan, Varanasi. Reprinted, 2010; 124.
10. *Vagbhata, Ashtanga Hridaya*, with the commentaries, *Sarvaangasundara* of Arunadatta and *Ayurvedarasayana* of Hemadri, Edited by Pt. Hari Sadashiva Shastri Paradakara Bhisagacharya, Published by Chaukhambha Surbharati Prakashana, Varanasi. (2007), Uttartantra 22/19-20, page no. 1037.
11. *Vagbhata, Ashtanga Hridaya*, with the commentaries, *Sarvaangasundara* of Arunadatta and *Ayurvedarasayana* of Hemadri, Edited by Pt. Hari Sadashiva Shastri Paradakara Bhisagacharya, Published by Chaukhambha Surbharati Prakashana, Varanasi. (2007), Uttartantra 22/21, page no. 1037.
12. *Vagbhata, Ashtanga Hridaya*, with the commentaries, *Sarvaangasundara* of Arunadatta and *Ayurvedarasayana* of Hemadri, Edited by Pt. Hari Sadashiva Shastri Paradakara Bhisagacharya, Published by Chaukhambha Surbharati Prakashana, Varanasi. (2007), Uttartantra 22/25, page no. 1038.
13. *Vagbhata, Ashtanga Hridaya*, with the commentaries, *Sarvaangasundara* of Arunadatta and *Ayurvedarasayana* of Hemadri, Edited by Pt. Hari Sadashiva Shastri Paradakara Bhisagacharya, Published by Chaukhambha Surbharati Prakashana, Varanasi. (2007), Uttartantra 22/19-20, page no. 1037.
14. Mahendra P, Bisht S. Ferula asafoetida: Traditional uses and pharmacological activity. Pharmacognosy Reviews, 2012; 6(12): 141-146. doi:10.4103/0973-7847.99948.
15. Parle, Milind & Deepa, Khanna. (2010). Clove: A champion spice. International Journal of Research in Ayurveda and Pharmacy. 2.
16. Anonymous, Database on medicinal plants used in ayurveda & siddha, Central Council for Research in Ayurveda & Siddha, New Delhi, 2005; 1: 57-63.
17. Anonymous, Database on medicinal plants used in ayurveda & siddha, Central Council for Research in Ayurveda & Siddha, New Delhi, 2005; 5: 282-284.
18. Maharshi Sushruta, Sushruta Samhita, Uttar Tantra Adhyaya 1/25, Ayurved-Tatva Sandipika Hindi commentary by Kaviraj Ambikadatt Shastri, Chaukhambha Sanskrit Samsthan, Varanasi. Reprinted, 2010; 14.
19. *Agnivesha, Charaka Samhita*, revised by Charaka and Dridhbala with Ayurveda Deepika commentary, by Chakrapanidatta, edited by Vd. Jadavaji Trikamaji Acharya, Chaukhambha Surabharati Publications, Varanasi -221 001, (India), reprint 2008 Sutarana sthana. 26 /4.5.6page no.144.