

DENTITION AND DENTAL CARE ACCORDING TO AYURVEDA**Kadwal Sonia*¹, Deepshikha² and Garg G.P.³**¹PG Scholar, Department of Kaumarbhritya, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.²Asstt Professor, Department of Kaumarbhritya, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.³Professor and H.O.D., Department of Kaumarbhritya, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.***Corresponding Author: Kadwal Sonia**

PG Scholar, Department of Kaumarbhritya, Uttarakhand Ayurveda University, Gurukul Campus, Haridwar.

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ABSTRACT

Dentition is an important aspect of children's milestones. Classical textbooks of Ayurveda have mentioned about qualities and deformities of primary teeth, gums, qualities of teeth erupted in various post-natal age. This article reviews the information available in Ayurveda texts on this topic and the health issues faced by children during the dentition period. Ayurveda also elaborates about dental hygiene and oral care. This article also reviews various published articles in reputed journals about the topic and attempts to critically analyze the knowledge under scientific light.

KEYWORDS: Dant, Dentition, Tooth eruption in ayurveda, Dental care in Ayurveda.**INTRODUCTION**

Teething is a natural process that begins in childhood and continues throughout adulthood. It usually begins between the ages of six months and three years. The eruption of an infant's first tooth into the oral cavity is seen as a significant life event. Teeth are known as Ruchakaasthi among the five types of bones since they not only enhance a person's appearance but also promote hunger by assisting in the chewing of foods. Ruchaka, in other terms, is "something which provides flavor." Asthi is a Sanskrit word that signifies "bone." Ruchakaasthi therefore denotes "that which is linked to the function of imparting taste." The teeth are derived from the Dhatu Asthi (Bone) and Majja (Bone Marrow).^[1] Teeth, like any other bone, need to be taken care of. After birth, the blood that is deposited in the alveolar pits of the jaw transforms into teeth. Each tooth has a Beeja portion, also known as the dental crypt, which prevents the tooth from erupting if it is destroyed.^[2] The teeth that develop from inadequate virility tissues in a typically growing infant fall out with time, and the replenishing propensity of the body tissues in a growing child causes the teeth to erupt a second time, which are known as dwijaas. In Ayurveda, there are allusions to the overall number of teeth and the different types of teeth. There are 32 danta (tooth).

Physiology of teeth

Asthi dhatu's upadhatu is Danta. It contributes to the tooth's stoutness and rigidity due to the preponderance of Prithvi and Vayu mahabhuta. Teeth are one of the physical components that grow after birth, according to Charaka. The number of teeth and their sockets has been

described as thirty-two in the past. Ruchakasthi is one of the types of Asthi, and the Dantas are one of them. Teeth are formed from ectoderm and mesoderm. Initiation, bud, cap, bell, and maturation are the four phases of development. The dental lamina connects the developing tooth bud to the epithelial layer of the mouth during the initiation stage. Localized proliferation of cells in the dental laminae creates round or oval swellings, the tooth buds, during the Bell stage. During the cap stage, mesenchyme called the dental papilla invaginates the deep surface of each ectodermal tooth bud, giving rise to the dentin and dental pulp. The enamel organ is the ectodermal, cap-shaped covering over the papilla that develops the tooth's eventual enamel. The hard tissues, like as enamel and dentin, form during the crown, or maturation, stage of tooth development. Tooth eruption is defined as the movement of a tooth from its growth location in the jaw bone to its functional position in the oral cavity, primarily in the axial direction.^[3]

Dantotpatti Kala (Period of dentition)

Teeth are supposed to erupt in a regularly growing youngster around the eighth month. Even if a child is born with teeth (Rakshasa), they can erupt at any point after birth. The more teeth that emerge early, the more the child suffers. Various constitutional illnesses are caused by metabolic abnormalities during the period of dentition. The earlier such diseases are detected, the more the child suffers from stunted growth and development, as well as a lack of complete virility of the tissues, including the teeth. Kashyap claims that if teeth erupt before the eighth month, there is always the risk of complications. Complications of the teeth that might

occur at any time during the year include the following.^[4]

Period	Effect
4th month	Weak, fall very easily and diseased
5 th month	Loose and diseased
6th month	Defective in shape, dirty, discolored and affected with caries
7th month	Cracked having lines, broken dry and forwardly protruding
8th month	Have all the qualities of a healthy tooth

Four different ways of tooth eruption^[5]

- 1) Saamudgam: Where the tooth remains short from regular collision and withering.
- 2) Samvrutta: Where the tooth remains concealed: thereby getting filthy and as such unlucky.
- 3) Vivrutta: Where the tooth remains wide and uncovered thereby regularly getting washed with the trickling saliva and as such it gets discoloured.
- 4) Atypical eruption: Eruption with full accomplishment in which the teeth remain clean, white, firm, glossy, soft and even, successive

elevation, the roots being big firm and compact. The gum margins there appear even, red and glistening. This is called Danta sampada

Tooth eruption

The deciduous teeth start erupting at 6 months of age and the permanent teeth at about 6 years of age. All the deciduous teeth are replaced by the permanent teeth by the age of twelve years.

A child between the age of 6 and 12 years has mixed dentition.

Timing of dentition^[6]

Primary dentition	Time of eruption, months'		Time of fall, years		
	Upper	Lower	Upper	Lower	
Central incisors	8-12	6-10	6-7	6-7	
Lateral incisors	9-13	10-16	7-8	7-8	
First molar	13-19	14-18	9-11	9-11	
Canine	16-22	17-23	10-12	9-12	
Second molar	25-33	23-31	10-12	10-12	
Permanent Teeth			Time of eruption, years		
	Upper	Lower		Upper	Lower
First molar	6-7	6-7	First premolar	10-11	10-12
Central incisors	7-8	6-7	Second premolar	10-12	10-12
Lateral incisors	8-9	7-8	Second molar	12-13	11-13
Canine	11-12	10-12	Third molar	17-21	17-21

Dental formula^[7]

It is a method of describing the number and arrangement of teeth in man and animals using letters and figures. It is written as an expression of the number of each type of tooth in one side of the upper jaw over the number of teeth in one side of the lower jaw. The letters correspond to the type of teeth (I = Incisor, C = Canine, P = Premolar, M = Molar). Humans have two dental formulae, one for the primary dentition and one for the permanent dentition.

Human (primary dentition): 20

I 2/2 C 1/1 M 2/2

Human (secondary dentition): 32

I 2/2 C 1/1 P 2/2 M 3/3

Human (Child up to two year):- 20

I 2/2 C 1/1 PM 0/0 M 2/2

PRASHASTA DANTA^[8]: Description about the ideal teeth is available in Kashyap Samhita, it is described as Danta Sampat (Ideal dentition), its Lakshana (Qualities) are Poornata (complete), Samata (evenness), Ghanata

(compactness), Snigdhatta (glossy), Shuklata (spotless), Shlakshnata (smoothness), Nirmalata (clean), Niramayata (disease free), little elevated and properly placed. Danta bandhana should be Sama (evenness), Snigdha (unctuous), Raktata (reddish), Drudha (strong), Ghana (dense) and Sthira moola (steady root).

APRASHASTA DANTA^[9]: The teeth which are less in number or more in number, white or black in colour with undivided gum are called inauspicious by sages.

Ayurvedic procedure for easy dentition

Vagbhata (A.H) mentioned the following recipes for easy and painless eruption of teeth^[10]

- For simple dentition, mix powdered Pippali (Piper longum Linn.) or Dhataki Pushpa (flowers of Woodfordia frutiosa Kurz.). Black pepper, or the pure chemical "Piperine," has a wide range of pharmacological qualities, including antispasmodic, anti-inflammatory, and antibacterial effects.
- Amalaki (Emblia officinalis Gaertn) fruits with honey and rub on gums. Amla is regarded as a

general restorer of dental health. It functions as a breath freshener. Zeatin, a cytokine-like compound found in amla leaves, aids in revitalising the mouth and bolstering the bones and teeth.

- Using honey to coat the dry flesh (Mamsa) of certain birs, such as Batera (Pleasant) and Titir (Partidge), aids in the appearance of teeth and mouths, such as lotus (*Nelumbo nucifera Gaertn*) with pollen.
- Medicated Ghrita with Vacha (*Acorus calamus* Linn.), Brihati (both *Solanum indicum* Linn. and *Solanum surattense* Burm.f.), Patha (*Cissampelos pareira* Linn.), Kutaki (*Picrorhiza kurroa* Royle ex Benth), Ativisa (*Aconitum heterophyllum* Wall.), Motha (*Cyperus rotundus* (Nutrient decoctives).

Ayurveda Dental care

In Ayurveda, dental health (Danta Swasthya) is held to be very individualistic, varying with each person's

Dantaun (Chewing sticks) according to Ritu, Dosha and Ras.^[11]

Ritu	Dosh prakop	Ras Pradhan	Dosh	Taste
Varsha	Vata	Madhur -Madhuk	Vata	Kashaya
Sharad	Pitta	Tikta -Nimba Kashya – Khadira	Pitta	Katu
Hemant	Kapha	Kashya -Khadira Katu – Karanj Tikata -Nimb	Kapha	Madhur

Some ayurvedic herbs used in dental care

Neem - Ayurvedic medicine uses the heavenly tree known as neem (*Azadirachta Indica*). Azadirachtin is one of neem's biologically active constituents. The main components of neem that have an antibacterial effect are azadirachtin and nimbin. Plaque index and bacterial count, particularly of *S. mutans* and lactobacilli species, have been significantly reduced by neem leaf extract.^[12] Neem mouthwashes are excellent in lowering both acute and chronic gingival and periodontal inflammation.

Turmeric - In addition to its usage in dentistry, turmeric has beneficial antioxidant, antibacterial, astringent, and antiseptic qualities. Curcumin, which is present in turmeric, is its active ingredient. It can be used both orally and systemically. By massaging roasted, ground turmeric over the hurting tooth, it reduces pain and swelling. Additionally, it serves as a staining agent in plaque detection systems that look for plaque in the oral cavity.^[13]

Ginger- The active ingredients of ginger (*Zingiber officinale*) include volatile oils, shogaols, gingirols, and diarylheptanoids.^[14] Ginger is used to treat toothaches and gingivitis because of its potent anti-inflammatory and anti-analgesic properties.

Dantshodhan churan – Trikatu, Trisugandhi, Madhu Tail, Saidhav, Tejbai.

constitution (Prakriti), and climatic changes resulting from solar, lunar and planetary influences (Kala-Parinama). The body constitution is classified based on the predominance of one or more of the three Doshas, Vata, Pitta and Kapha. The dominance Dosha in both the individual and nature determines health care in Ayurveda, including dental health. Ayurveda recommends chewing sticks in the morning as well as after every meal to prevent oral diseases. Ayurveda also described use of herbal brushes, approximately twelve Angulas (9 inches) long and the thickness of one's little finger. These herb sticks should be either 'Kashaya' (astringent), 'Katu (acid), or 'Tikta' (bitter) in taste. It is recommended that chewing sticks be obtained from fresh stems of specific plants.

Gandusha (oil pulling)

Oil pulling, is a procedure that involves swishing oil in the mouth for oral and systemic health benefits. It is mentioned in the Ayurvedic text Charaka Samhita where it is called Gandusha¹⁵. The process of swishing is supposed to stimulate certain enzymes, which then removes toxins from the circulation. Because of its antioxidant properties, the oil used in the mouth shields it from infection and inflammation.

DISCUSSION

There is a wealth of knowledge about preventive oral care in Ayurveda. Dentistry in Ayurveda is not a distinct branch, but it is well-explained and included in the Shalakyta tantra branch. There are just too many modern scientific reasons and dental procedures to consider, yet some ancient seers have offered their insightful suggestions and findings. Basically, the teeth originated from Asthi (Bone) and Majja (Bone marrow) Dhatu. Total teeth are 32 in number and names of various teeth have been given by Kashyap. Formation, eruption, growth and development, fall, their strength and weakness all depends on certain factors like race, nature, maternal and paternal factors (hereditary) and acts of past life. Time of eruption and shedding of primary teeth and eruption of permanent teeth given Vagbhata and Kashayapa is similar as modern anatomist and dentists. The concept of Vagbhata regarding genesis of teeth is more precise to the current science. He opines that Dhatubija is basically responsible for further development of tooth. Complication of tooth appearing in different months is described by Kashyapa and he told

eruption of teeth in 8th month will have all the qualities of a healthy tooth. Chewing a medicinal stick is comparable to brushing your teeth because it is beneficial for your health and helps avoid oral illnesses as opposed to the chemical tooth paste that we use twice a day. As a traditional Ayurvedic treatment for a variety of illnesses, oil pulling has recently gained enormous popularity. Despite the extensive and detailed description of various herbs used in dentistry and oral care. In the current review, the authors made a concerted effort to assemble as much data as possible on tooth erupting processes and preventive Ayurvedic dental care practises in accordance with contemporary parallel research in order to provide a scientific foundation for their theories.

CONCLUSION

In Ayurveda, teeth are considered part of Astidhatu - bone tissue, so that their sockets are like joints. Herbs that are used internally to support Astidhatu, or the skeleton and joints, are beneficial for the teeth's long-term health. Both in terms of prevention and cure, ayurvedic dental care is quite beneficial in today's world. These are cost effective and are easily available remedies which were used in ancient time. Further studies should be conducted to include these in oral health care products. From the critical study, it is concluded that Kashyapa Samhita provides extensive explanation on many elements of dentition and tooth eruption. Its description is extremely similar to contemporary examples. The detailed explanation of the numerous dental, gum, and other oral cavity illnesses and their treatment is very helpful in the current environment. In clinical practise, the account of a single drug usage is extremely helpful.

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