

**DANTODBHAWAN (CONCEPT OF DENTITION IN AYURVEDA)****REVIEW ARTICLE****S. P. Pathak<sup>1\*</sup>, I. P. Tripathi<sup>2</sup> and Poonam Pandey<sup>3</sup>**<sup>1</sup>Professor, Dept. of Shalakya Tantra, VVAC & Hospital, Bhopal M.P.<sup>2</sup>Dean Faculty of Science & Environment, MGCGV Chitrakoot M.P.<sup>3</sup>Lecturer, Dept. of Samhita Siddhanta, VVAC & Hospital Bhopal M.P.Article Received on  
13 August 2024,Revised on 03 Sept. 2024,  
Accepted on 23 Sept. 2024

DOI: 10.20959/wjpr202419-34067

**\*Corresponding Author****Dr. S. P. Pathak**Professor, Dept. of Shalakya  
Tantra, VVAC & Hospital,  
Bhopal M.P.**ABSTRACT**

The glorious and beautiful smiles flash only with glossy white and well arranged teeth. These are the most important organ of mechanical digestion in body. Unless the teeth pulverize the food, the enzymes cannot chemically digest it. Hence, painful teeth, absence of teeth or diseased teeth and gums often lead to indigestion and insufficient utilization of the undigested food, results in malnutrition. Ayurveda is the God gifted ancient and the first medical science which was memorized and composed by the originator Brahma and considered as the branch of Atharvaveda and treated as Panchama Veda. The diseases of the head and neck are mentioned in Uttar Tantra of Sushruta Samhita, but Mukha Rogas - the diseases of the Mukha (oral cavity) are separately explained in Nidana Sthana. As per Ayurveda, Mukha comprises of seven sub sites (Austa, Dantamoola, Danta, Jivha, Talu, Gala, Skalam) among these Danta (teeth) are composed of Asthi and Majja, hence they are included in Pitrujabhava.

**KEYWORDS:** *Mukha, Oral cavity, Danta, Asthi, Majja.***INTRODUCTION**

Ayurveda is the oldest medical science, existing since before the human creation. It is the science which is developing as a result of various discussions and researches from ancient time onwards. It is aimed to protect the health by giving the knowledge of preventive health principles and cure the diseases by explaining the different types of treatment-procedures and principles.

Ayurveda postulates the unique principles of *Tridosha*, *Dhatu* and *Mala* for homeostasis of the body. Good health is the base of achievements like *Dharma*, *Artha*, *Kama* and *Moksha*. According to Ayurveda only physical and mental, social and spiritual well being can be considered as Arogya.<sup>[2]</sup>

Among the *Astanga ayurveda* (eight branches of Ayurveda), *Urdhvanga Chikitsa* or *Shalakyia Chikitsa* or *Uttamanga Chikitsa* or *Urdhavajatrugata Roga Chikitsa* is but treatment principal for aliments, effecting *Urdhavajatrugata Bhaga*, which is also same for vital organs.

*Acharya Sushruta* has given the importance to *Shalakyatantra* as a component of *Astanga Ayurveda*. Major description of *Shalakyia tantra* is available in *uttar tantra* of *Sushruta Samhita* and some description in *Nidan Sthana* and *Chikitsa Sthana*. Along with *Sushruta Samhita*, scattered reference of *Shalakyia tantra* with brief description can be found in other *Samhitas* also.

Though the *Urdhavajatrugata Rogas*- the diseases of the head and neck are mentioned in *Uttar Tantra* of *Sushruta Samhita*, but *Mukha Rogas* - the diseases of the oral cavity are separately explained in *Nidana Sthana*.<sup>[2,3]</sup>

Mainly brief description of *Dantodbhavan* or *Dantajanam* (Dentition) found in *Kashayap Samhita Sutrasthana*, *Ashtangasangrah Uttartantra*, *Ashtanghridyam Uttartantra*, *Sushrut Sharirsthana* and *Charak sharirsthana*.

Here an attempt has been made to compile the knowledge of ancient Ayurvedic scholars scattered in Ayurvedic classics, so as to present it systematically, which is the requirement of time.

## Mukha

According to *Vachaspati*, *Mukha* is the organ created by Lord Brahma. (*Vachaspatipart* 6,4755). *Mukha* word is used both for oral cavity and face. *Mukha* is one of the nine externally opening-*Srotas*.<sup>[4]</sup> As per Ayurveda, *Mukha* comprises of seven sub sites, and there are sixty-five different diseases occurring in *Mukha*.<sup>[2]</sup>

## Etymology

*MUT + KHAN + ACH = MUKHA*

The word “*MUKHA*” is divided from the root “*khan*” which when suffixed by “*ACH*” and prefixed by “*MUT*” gives rise to word “*MUKHA*”. It means treating or cutting into pieces.

### Definition

As per reference available in *Vachaspati* ‘*Mukha*’ is the organ created by Lord Brahma.

The *mukha* comprises of seven sub sites

- (1) *Austha*
- (2) *Dantamula*
- (3) *Danta*
- (4) *Jihva*
- (5) *Talu*
- (6) *Gala*
- (7) *Sakalam*

### Synonyms

- *Vaktra in Astang hridayam*
- *Asya*
- *Vadana*
- *Ananam*
- *Mukham. (Amarkosa)*
- *Mukharandhra in bhavprakash*
- *Mukhantarala*
- *Mukhavakasa etc.*
- *Mukhakuvara* - inner part of the oral cavity.

All of these are synonyms of *Mukha* (Oral cavity).

Vagbhata has described ‘*Ganda*’ as 8<sup>th</sup> sub site of *Mukha*.<sup>[3]</sup> Acharya Bhavmisra has considered these seven sites in the chapter ‘*Mukha Roga dhikara*’.

### Classification of mukharogas

The diseases of the oral cavity are elaborated in *Sushruta Samhita* in a systemic way under the title of “*Mukha Roga*”. *Sushruta* has first time presented the diseases of the oral cavity in general and specifically with full details of the diseases of gums and teeth. The diseases of *Mukha* are classified according to the involvement of *Dosha* and their site of occurrence.

The classification of *Mukha Rogas* according to various *Acharyas* is shown in Table1.

**Table 1: Classification of mukha roga.**

<b>Sthana</b>	<b>SU.</b>	<b>VG.</b>	<b>MA.</b>	<b>BH.</b>	<b>SH.</b>	<b>Y.R.</b>
Austha	08	11	08	08	11	08
Dantamoola	15	13	16	16	13	16
Danta	08	10	08	08	10	08
Jihva	05	06	05	05	06	05
Talu	09	08	09	09	08	09
Kantha	17	18	17	18	18	18
Sarvasara	03	08	03	03	08	03
Ganda	-	01	-	-	-	-
Total	65	75	66	67	74	67

Acharya Sushruta, has describes 65 Mukharogas.

Acharya Vagbhata mentioned 8 sub sites in Mukha and counted 75 diseases in them. Thus Vagbhata differs from Sushruta, in total number of diseases. He has counted 3 diseases extra in Austa Roga, 2 in Danta Roga, 1 in Jihva Roga, 1 in Kantha Roga and 5 in Vaktra Roga. Acharya Vagbhata has mentioned 13 Dantamula Roga instead of 15 and 8 Talu Roga instead of 9 according to the classification of Sushruta. Vagbhata has used one another word that is “Ganda”. He has also used the term Sarvavaktra instead of Sarvani.

Madhava Nidana differs from Sushruta, only in Dantamula Roga by adding one more diseases to Sushruta total no.15 and thus making Dantamula Roga as 16, whereas Bhava Prakasha differs from Sushruta, in total no of diseases. He has counted one disease extra in each Dantamula and Kanth Roga where as his classification according to site is similar to that of the Sushruta.

Acharya Sarangadhara also agrees with Acharya Sushruta, regarding the sites of Mukharoga but he differs in the total no of diseases.

Acharya Bhava Mishra has also considered the 7 sites of oral cavity in the chapter of Mukha Rogadhikara, but used the term Mukhadi sakalam instead of Sarvani. Acharya Bhava Mishra follows Acharya Sushruta, regarding the sites of Mukharogas but has said that total no. of Mukharoga is 67 whereas Dantamula gata Roga and Kantha Roga have been respectively considered as 16 and 18 instead of 15 and 17 as mentioned by Sushruta. Similarly, in Yogaratnakar, 7 sites are mentioned and Galadi Sakalam is used for Sarvani(Table-1).

Acharya Charaka has classified the Mukha Rogas into four types, on the basis of doshik predominance, they are:-

1. *Vataja*
2. *Pittaja*
3. *Kaphaja*
4. *Sannipataja*

Acharya Charaka has given more importance to *Dosha* rather than naming and tracing the site of the diseases. In *Charaka Samhita*, Acharya Charaka has mentioned the symptoms of *Mukharogas* according to involved *doshas*. He has not mentioned the *Danta roga* in detail but has mentioned the treatment of *mukha roga*.

### Danta (Teeth)

*Dasana*, *Radana*, *Rada*, *Dvija*, and *Kharu* are synonyms of *Danta*. According to the ancient Acharyas, human beings have thirty-two teeth. Out of them eight are *Sakrjjata*, the rest are called *Dvija*. The teeth are composed of *Asthi* and *Majja*, hence they are included in *Pitrujabhava*.<sup>[8,2,1]</sup>

*Danta* (tooth) is also known as “*Rucakasthi*” and it is a variety of bony tissue. There are 32 permanent teeth and 20 primary or deciduous teeth. It appears that over 5000 years since the time of *Kashyapa*, children have lost 4 of their deciduous teeth and now at present only 20 deciduous teeth are present. Even many adults at present either do not have their wisdom teeth or they are very much under developed. Hence the number of permanent teeth usually present in adults varies from 28 to 32.

### Synonyms

- *Danta*
- *Dasana*
- *Radana*
- *Rada*

These are the different synonyms used for the teeth.

### Definition

Grinding equipment situated inside the mouth which is a type of bone are teeth (Vachaspati - 5th part p. 3493)

Teeth are one type of bone that is “*Ruchakasthi*”.<sup>[2]</sup>

The word ‘*rucaka*’ means that which imparts taste and ‘*Asthi*’ means bone.

Thus *ruchakaa-asthi* means bones associated with the function of imparting taste.

Teeth are hard instruments or organ of chewing inside the mouth.

(Ayurvediya mahakosa, Ayurvediya Sabdakosa 1st part p.391, 392)

### **Anatomy**

*Acharya Charaka* and *Sushruta* have mentioned *Danta* under the description of bones. *Acharya* has mentioned *Danta* as a *Ruchkasthi*. He described the *Ulukhala Sandhis* in *Dasana* and mentioned the Dimension of *Danta* as to *angulas* in *Pramana*. *Acharya Saranghadhara* and *Bhavmisra* have mentioned the *Danta* is an *Upadhatu* of *Asthi*.<sup>[1,2,4]</sup>

### **Physiology**

Physiology of *Danta* has not been clearly mentioned in Ayurvedic classics.

#### **1. Mastication**

*Acharya Vagbhata* has stated that the food is made into small particles by chewing. Proper mastication leads to proper digestion. If digestion is proper, nutrition will be proper which is good for health.<sup>[3,5]</sup>

#### **2. Maintenance of normal shape, Contour and Beauty of the face**

As they maintain the normal shape, contour, and beauty of the face; the feeling of aging and psychological impact associated with falling of permanent teeth is tremendous.

#### **3. Teeth are important for clear and distinct phonation**

Hence, the speech becomes somewhat unclear and indistinct after loss of permanent teeth.<sup>[5]</sup>

*Acharya Charaka* has included teeth among the body parts.<sup>[1]</sup> The Classics have accepted number of teeth along with their socket as 32.<sup>[1,2,3]</sup>

According to *Acharya Kasyapa*, eight teeth among the thirty two are permanent-appears once in life, they are named '*Sakrijata*'; and remaining twenty four appear twice in life, are known as '*Dvija*'.<sup>[8]</sup> *Dvijja* fall out and reappear whereas *Sakrijata* remain for the whole life. Moreover *Acharya Kasyapa* has defined '*Sakrijata*' as '*Svarudhadanta*'. It means the teeth mounted in own / original roots. *Acharya Kasyapa* has mentioned the name and placement of each tooth. According to him, there, in the middle upper row are two *Dantas*, named '*Rajadanta*'

There, on both side of *Rajadanta* are '*Vasta*' There, on lateral side *Vasta* of *Rajadanta* are '*Damshtra*'. Rests of teeth, which grow in original roots, are called '*Hanavya*'.<sup>[8]</sup>

### Etymological derivations

The scientific meaning of each Word as per Ayurvedic classics with their etymological derivations are as under.

#### Danta

*Dam + Tan = Danta*

According to shabdastom Mahanidhi and Vachapatyam –

The word ‘Danta’ is derived from the root ‘Dam’ which, when suffixed by ‘Tan’ gives rise to the word ‘Danta’.

Danta’ Means

1. A tooth, tusk, fang
2. The point of an arrow
3. The peak of mountain
4. The number thirty-two.

(Sanskrit-English Dictionary by V.S.Apte p.800)

#### Dashana

*Dashana + Lyut = Dashana*

The word ‘Dashana’ is derived from root ‘Dashana’ when suffixed with ‘karne lyut’ then forms ‘Dashana’.

The word *Dashana* can be defined as the “*Dashyate aneneti*” means,

‘By which one can see’. (*Shabda Kalpadrum*)

#### Rada

*Rad + Acha = Rada*

The word ‘Rada’ is derived from the root ‘Rad’ which when suffixed by ‘Acha’ gives rise to the word ‘Rada’ (*Shabda Kalpadrum*) Means,

1. Splitting, Scratching
2. A tooth, tusk of an elephant
3. A symbolic expression for the number thirty two

#### Radana

*Rada + Lyut = Radana*

The word ‘Radana’ is derived from the root ‘Rada’ which when suffixed with ‘Karne lyut’ then forms ‘Radana’ (*Shabda kalpadruma*)

The word *Radana* can be defined as the '*Radhyate aneneti*'.

Means, A tooth- the act of splitting, gnawing, scratching.

### Embryology and Development

The evolution of all body parts and sense organs beings in the 3<sup>rd</sup> month of embryo<sup>[1]</sup> and complete at about 7th month but the teeth distinctly appear gradually after birth.<sup>[4]</sup>

According to Sabda Kalpadrum the concealed row of teeth formed in the 6th month of embryo. *Danta* is one of the *pitrujabhava*.<sup>[2]</sup>

Acharya Vagbhata has described the role of *Asthi* and *Majja Dhatu* in the development of teeth.<sup>[4]</sup> Acharya Sushruta, has mentioned in '*Ritumacharya*', that woman should avoid '*Atihasya*' during pregnancy because it causes black teeth, lips, palate and tongue in fetus.<sup>[2]</sup> Acharya Charaka has described *snigdha*, round, found equal shaped teeth in '*Shukrasara Purusa*'.

### Dantodbhavan

Danta Janma - The Dentition is one of the important landmark in assessing the growth and development of a child, however it has not been dealt in this perspective in *Charaka Samhita*. Vagbhata has dealt mainly the complications arising during dentition period. Only *Acharya Kasyapa* has given detailed description of the dentition.

### Dantotpatti hetu

According to Vagbhata, *Asthi* (Bone) and *Majja* (Bone marrow) are responsible for Dantotpati<sup>[3]</sup> (Dental eruption).

Bone and bone marrow is responsible for teeth eruption but their development, falling, reappearance, cessation, stability, decaying, looseness, firmness and weakness of the teeth depends upon many factors like racial specification, period of insemination, nature, imitation of parents and own deeds.<sup>[8]</sup>

### Danta janma vidhi

Detail description of *Danta Janma Vidhi* is found in *Kasayapa Samhita*. The whole process has been divided into following six steps.

- Nisecana - Insemination
- *Murtarupa* - Manifestation



- *Udbhava* - Eruption
- *Purvarupa* - Prodromal symptoms
- *Upadrava* - Complication
- *Upakrama* – Management

### **Nisecana**

*Nisecana* means insemination of the teeth during the progeny of the fetal life and the appearance of the tooth in the infant. In this regards *Acharya Kasyapa* says that teeth come out of the gums for the first time in the same month corresponding to the month of the fetus in which the teeth are inseminated.<sup>[8]</sup>

### **Murtarupa**

*Murtarupa* means manifestation of the particular tooth. In other words once the teeth start cutting the gums how many days it will take to appear or manifest.

*Acharya Kasayapa* clarified that in what so ever month the teeth are inseminated, in the same number of days it appears.<sup>[8]</sup>

### **Udbhava**

*Udbhava* means complete eruption of the tooth. The germ of the first set (milky or temporary) have existed within the jaw for several months before birth they are not covered with true bone, As ossification advances, the tooth rises and pressing upwards which causes absorption of its capsule and the gums and the tooth appears. The germs of the second set also existed in the jaw before birth, more deeply seated than those of the deciduous teeth.<sup>[8]</sup>

### **Purvarupa**

At any place, original reference is not available regarding the signs and symptoms, which will appear before dentition.<sup>[8]</sup>

### **Upadrava**

*Upadrava* means complications during teeth eruption process. In *Kasyapa Samhita* there is no reference available about it. *Acharya Vagbhata* has mentioned the following complications which may arise during teething process.<sup>[4]</sup>

- *Jvara*
- *Bhrama*
- *Pothaki*

- *Shvasa*
- *Sirovedana*
- *Abhisyanda*
- *Vamana*
- *Atisara*
- *Trisna*
- *Kukunaka*
- *Visarpa*
- *Kasa*

### Upakrama

According to *Vagbhata* various dentition disorders subside automatically, thus strict regimen is not advised but specific treatment for diseases is also prescribed<sup>3, 4</sup>. For example if the teeth do not erupt at appropriate time the message of gum with different drug as well as oral medication has been prescribed.<sup>[4]</sup>

### Types of dental eruption

Four types of teeth eruption are as follows:

1. *Samudaga*
2. *Samvrta*
3. *Vivrita*
4. *Dantasampta*

### Samudaga

In this type there is a scope of tooth destruction because of constant decaying of the tooth.<sup>[5, 8]</sup>

### Samvrta (hypertrophy of gums)

In this type, the teeth are inauspicious and they appear dirty. *Samvrta Danta* means teeth enclosed by gums which are hyper tropic. *Samvrta Danta* has a tendency for collection of tartar and became dirty soon.<sup>[5,8]</sup>

### Vivrita (Atrophy of gums)

In this variety, there is excessive salivation; the teeth are not covered by the gums. So, the teeth get easily filthy and produce many disorders. *Vivrita* teeth have their roots exposed because of attrition of gums.<sup>[5,8]</sup>

### Dantasampata

In this variety, teeth are normal, complete in numbers, equal, strong, white, dense, smooth clean, healthy, slightly prominent, well developed and evenly placed in relation to each other. The gums are even, pink, smooth, strong, dense and steady. Further *Acharya Kasyapa* described that the teeth which appear in the 8th month will have all the characteristic of *Danta Sampat*.<sup>[8]</sup>

Teeth with best qualities like completeness, smoothness whiteness, unctuousness, cleanliness, disease- Free State and slight protuberance of upper teeth.

### Dantotpatti kala

In human being, fourth month onwards teeth are inseminated. Here are the characteristics of the teeth, which appear in different month.<sup>[8]</sup>

#### Month characteristics

4th - *Durbala, Asuksina, Amayabahula*

5th - *Spandana, Praharsina, Amayabahula*

6th - *Pratipa Malagrahina, Vivarna, Ghundanta*

7th - *Dviputa, Sphotyina, Rajimanta, Kanda, Ruksha, Unnata*

8th - *Sarvaguna Sampan*

### Danta Patasya & Punarudbhavasya kala

Falling and reappearance of teeth mainly depend upon the status of bone and bone marrow as these are said to be basic factors responsible for dentition, besides, in condition of decline of bone the tendency of falling of teeth increases.<sup>[1,4]</sup>

According to *Acharya Kasyapa* after birth in what-ever month the teeth appear, they fall and reappear in the same year. In *Astanga Sangraha* also identical view is given in what-so-ever month teeth erupt after birth, these fall in the corresponding year.<sup>[4]</sup>

**Table 2: Difference between apavitra Danta and Pavitra danta.**<sup>[8]</sup>

Apavitra danta (inauspicious teeth)	Pavitra danta (auspicious teeth)
The teeth at the time of birth	Completeness
First eruption of upper teeth	Slight protuberance of upper ones
Eruption of Scatted teeth	Disease- free state
Teeth with individual gums	Cleanliness

Cracked teeth	Smoothness
Discolored teeth	Whiteness
Dreadful teeth	Unctuousness
Presence of more teeth	Compactness
Presence of less teeth	Evenness

## CONCLUSION

The first tooth erupts at about 8 months in normal healthy children. It may erupt a few months later. Occasionally a newborn baby may be born with one or two teeth already erupted. Too early eruption of teeth between 4<sup>th</sup> to 7<sup>th</sup> months or too late eruption of teeth after 12 months is not good for health of teeth and often is a sign of diseased state of body. Eruption of teeth is easier and slightly earlier in girls, because of their softer teeth and gums. Teeth erupted before 8<sup>th</sup> month are usually weak, irregular, and dry, discolored and have ridges and dots on the surface and a tendency to break easily.

## REFERENCES

1. Vd. Harishchandra Singh kushvaha, the charak samhita, ayurveda dipika's ayusi, Hindi commentary, first edition, chaukhambha orientalia, sharersthana, 2005; 1: 763-771.
2. Ambikadatt Shastri, Shusruta samhita, purvardh, Reprint, Chaukhambha Sanskrit Sansthan, Varanasi, Sharirsthana, 2007; 2: 41-50.
3. Sri lalchandra vaidya, Ashtanga Hridayam with the commentaries „Sarvangasundara“ of Arunadatta, Reprint, Motilal banarasidas publication delhi, 2008; 1: 690-708.
4. Dr. Ravi Dutt Tripathi, Astanga samgraha, „Saroj“ Hindi Commentary, Chaukhambha Orientalia, Utartantra, 2-20.
5. Dr. V. B. Athavale, Dentistry in Ayurveda (Danta - Shastra), Chaukhambha Sanskrit Pratishthan, Delhi, 4-17.
6. Vd. Harishchandra Singh kushvaha, the charak samhita, ayurveda dipika's ayusi, Hindi commentary part, first edition, chaukhambha orientalia, Chikitsa Sthana, 2005; 1: 187-05.
7. P. V. Tiwari Kashyapa, Kashyapa samhita sutra sthana English transl & commentary, reprint, Varanasi: Chaukhambha Vishwabharti, 2002; 13: 20-4, 8.