Exploring Dant Shareer in the Context of Pitruja Bhava: An Ayurvedic & Modern Perspective

Dr. Akash Chormare [1] Rupaji J. Kadam [2] Manisha R. Kadam [3]
[1]*PG Scholar, Dept. of Rachana Sharir, Bharati Vidyapeeth Deemed to be University, College of Ayurved Pune*
[2]*Professor Dept. of Rachana Sharir, Bharati Vidyapeeth Deemed to be University, College of Ayurved Pune*
[3]*Assistant professor, Dept. of Kriya Sharir Bharati Vidyapeeth Deemed to be University College of Ayurveda Pune*

Abstract: According to Ayurveda, organ development during embryogenesis is influenced by both maternal (Matruja) and paternal (Pitruja) genetic factors. Teeth (Danta) are considered to arise primarily from Pitruja Bhava, making them susceptible to defects in the paternal Beeja (sperm). This aligns with modern understanding of XY chromosomal disorders originating from genetic abnormalities in either parent. The concept of Danta Sharir is extensively detailed in Kashyapa Samhita, which describes 32 adult teeth—eight permanent (Sakritjata) and 24 secondary (Divija). Sushruta classifies teeth under Ruchakasthi (a bone type) and outlines dental disorders (Dantagata Rogas). Ayurvedic classification of teeth closely parallels modern dental science, reflecting Ayurveda's advanced understanding of dental anatomy.

Key Words: Matruja, Pitruja Bhava, Danta Shareera.

INTRODUCTION

According to Ayurveda, the development of bodily organs during embryogenesis is influenced by both maternal and paternal genetic components. If any part of the *Beeja* (zygote) is damaged during this critical period, the resulting genetic defect may manifest later in life. The concept of *Prakriti* (bodily constitution) is also believed to be genetically determined during embryonic development. Studies report a significant prevalence of congenital abnormalities—approximately 230.51 cases per 10,000 births—highlighting their importance as a major cause of mortality in children under five years of age.

Ayurvedic texts describe genetic disorders using terms such as *Sahaja Roga* (hereditary diseases present at birth), *Kulaja Roga* (familial hereditary diseases), *Adibala Pravritta Roga* (genetic diseases), and *Janmabala Pravritta Roga* (congenital anomalies). These conditions are believed to arise from defects in the *Beeja* (sperm or ovum) and are associated with maternal factors such as soul, uterus, time, diet, and lifestyle. The terms *Beeja*, *Beejabhaga* (DNA), and *Beejabhagavayava* (genes) are used in Ayurveda to conceptualize the hereditary and genetic basis of such disorders.

REVIEW OF LITERATURE

The embryo is generated by the accumulation of components from the mother, father, soul, healthy regimen, rasa (nutritive fluid), and mind. The origins of the different organs, such as maternal, paternal, and so on There are six factors involved in Garbhasambhava. [2]

1. Matruja
2. Pitruja
3. Atmaja
4. Satmyaj
5. Rasaj
6. Satvaj

Pitruja Bhava: The father participates in the embryogenesis process. Without the father, there can be no conception or birth of viviparous animals. We will now outline the physical components inherited from the father. These Pitruja bhava are Kesha,Loma,shmashru,Nakha ,Danta, Asthi, Sira ,Snayu ,Dhamanya and Shukra. [3]

Nirukti of word Danta:

According to Sabdasthommahanidhi and Sir MM Williams, the word Danta is derived from the root "DAM" which when suffixed with "TAN" gives rise to the word Danta. The literary meaning of DAM is tooth, tusk, fang (two long sharp upper teeth in snakes) and the literary meaning of TAN is continuation, spread or spread. [4]

Synonyms for Danta: [5]

Various synonyms are given for Danta in the context of its shape, structure and functions.

1. Dashana- To bite, it can be used to cut food and tools for self-protection.
2. Radana- Sharp pointed edge structure and tearing function of teeth, especially canines.
3. Khadana- Indicates the grinding function.
4. Divija- As teeth appear twice in a lifetime, they are called Divija (initially milk teeth and then permanent set).

Charaka Samhita: [6] Danta and Dantolukala are considered Asthi and their number is given as 32. "Danta Vestaka (chewing gum) is considered one of the Pratyanga." Danta is considered as Pitruja Bhava' and originates from Pruthvi Mahabhuta. While explaining Asthisara Lakshana, sthoola danta was mentioned among the Lakshanas." In Shukrasara Lakshana the features of Danta were given as Snigdha, Vrutta, Sara, Samhata and Shikhara." Explaining Dheergayu Lakshana mentioned that Danta should be Sunivista (well-ordered)." While explaining Vata Prakruti Lakshana, Danta Lakshana is said as Parusha

The abnormalities of Danta are narrated because of Vrudhi and Kshaya of Asthi and also in Asthi pradoshaja Vikara."

Sushruta Samhita:[7] Danta is considered Asthi." The number of Danta is given as 32 and is narrated as a type of Asthi called Ruchakansthi. Sandhi, like Ulookhala sandhi and there are 32." Pramana of Danta is two Angula. Danta is considered as Pitruja Bhava. While explaining Deergayu Lakshana, mahaan dashana is said as one lakshana." Drudha danta is listed as one of the lakshana in the Asthisara Lakshana." Lakshana like Snigdha, Samhata and Shweta danta are narrated in Shukra sara Lakshana. Explaining Vata Prakruti, it is said that the person grinds his teeth in his sleep[8]. A detailed account of the diseases of Mukha has been given, which includes Danta and Danta Moola."

Astanga Hridaya Samhita:[9] 360 communicated Asthi including 32 Dantas. While explaining Deergayu Lakshana, Lakshana is narrated as Ghana, Snigdha, Shlakshnata, Sita and Sama. Detailed explanations about Danta and Danta Moolagata Roga are given.

Astanga Sangraha Samhita:[10] Asthi is considered as Anga (body part). Five kinds of Asthi are told among them, danta being considered Ruchakasthi. 32 Danta is told. Eight types of Sandhi he said, among them Ulookhala is also one type. Danta is an example of Ulookhala Sandhi and its number is 32. "Danta as Pitruja Bhava and derived from Paarthiva Bhava. While explaining the Ishta Shareera Lakshana, several Lakshanas of Danta such as Shukla, Sukshma, Snigdha, Ghana, Sama Danta and Gooda Danta Moola are narrated. While explaining the Vata Prakruti Lakshana, the Lakshana of Danta are narrated as Tanu, Ruksha and Alpa. Causes of teething and tooth development are explained. There are descriptions of the rituals and sacrifices to be followed when a child is born with Sadanta." We find detailed explanations about Danta and Danta Moolagata Roga and chikitsa. There is a reference regarding danta lekhana shastra for scratching danta sharkara.

Kashyapa samhita: Danta and Dantolukhala are 32 each and are included in the asthi. Asthi Sankhya as 360 in the body." Danta Vesta and Danta Lohadi moola are considered Pratyanga. Acharya mentioned Dantotpatti, types of Utpatti, Danta Sampat Lakshana" and causes of early and late eruptions. Greater importance is attached to Dantotpatti and related disorders. The period of teething is also described here along with diseases before teething and treatment. "The period of teething has been given." A description regarding Unfavorable Teeth is available.

Sharangadhara Samhita: [11] Danta as Upadhatu of Asthi. Mala – as Mala of Medodhatu. 10 diseases of Danta and 13 diseases of danta moola are described.

Harita Samhita:[12] Sukshma danta is narrated as lakshana for vatika Prakruti. It is said that the person of Vishuddha Varna danta will be present in Paittika Prakriti. Different types of Danta Roga are described.

Bhela Samhita:[13] There is a reference to 360 Asthi numbers where 32 Danta numbers 32 Dantolukhala numbers are considered as Asthi. The two Danta Vesta are considered Pratyanga of the body. While explaining Prakriti Lakshana, it is mentioned that a Kapha Prakruti person will have well arranged teeth.

Concept of Danta: Mukha is the part which deals with tearing and cutting food." Bhavamishra has defined Mukha correctly. According to him it is a collective body consisting of Oshta, Danta moola, Danta, Jivha, Taalu, Gala and all its surrounding parts. Achaarya Sushruta has mentioned all the parts of Mukha together in Mukharoga Nidana. The dictionary meaning of Mukha is mouth, face, bird's beak or direction." As part of mukha: Danta and Danta moola are also listed as parts of Mukha. "The description regarding Danta is scattered, information is available in different texts.

Definition of danta: It's Pulling's word. It is the part relating to Charvana or chewing. It is the chewing organ inside the mouth which is a kind of Asthi. The literal meaning of danta is tooth, tusk, tusk, elephant tusk or ivory, arrowhead, number 32, peak or crest of a mountain. Pramana of danta: Danta is two Angula long. According to the Nibandha sangraha commentary, the part covered by the Mamsa is one Angula and the uncovered part is one Angula.

Dantotpatti: The appearance of danta or jaggedness in the oral cavity is called Dantotpatti. According to Ayurveda, teeth are inseminated in humans from the fourth month. Birth with teeth, first eruption of upper teeth, eruption of scattered teeth, presence of fewer teeth and cracked teeth are considered inauspicious in Ayurveda. According to Ayurveda there are 32 teeth in humans as shown by modern science. In them the 8 teeth erupt once and become the tooth set in the original Dwija roots/erupting twice. In whatever month the teeth are inseminated, they appear on the same number of days. After being born in whatever month they appear, they fall and reappear in the same year. According to the Kashyapa samhita, After the birth in which the months they erupt in the oral cavity, they erupt in the same month in the life of the fetus. Cause of dantotpatti/danta sambhava hetu: Asthi and Majja are responsible for the formation of teeth. Along with these two roles, Rakta is also accepted in Ayurveda. Falling out and reappearing of teeth mainly depends on the condition of Asthi and Majji as these are said to be the basic factors responsible for Dantotpatti. Danta's classification (teeth): An adult has a total of 32 teeth, eight of which are known as Sakritjata, also called Savarudha (permanent teeth). The remaining twenty-four are designated as Divija (secondary/milk teeth) because they appear twice in a lifetime.

Dental Nomenclature:

- Rajdanta (Middle Incisors): It first appears in infancy and is located in the upper jaw (middle of the jaw). This tooth is alim (holy) because if it falls due to any reason, such a person cannot recite Vedic hymns properly, Shraddha etc. they cannot perform such sacred ceremonies. These teeth also provide facial beauty, because when such a person smiles, the space opens up and looks ugly. These teeth usually appear in the upper jaw, but in some children they may appear in the lower jaw, a condition which Acharya Kashyapa considered unfavorable.
- Basta (lateral incisors): These teeth propose one side for Rajdant (central side) and are called Bast (lateral side).
- Danshtra (canine): These teeth appear lateral to Bast teeth & also called cutting teeth.
- Hanvya (Molars): The remaining teeth are called Hanvya. According to the above description, the number seems to be only ten. The one jaw actually has sixteen teeth, so the number is not the same as the number mentioned above which is twenty Divija teeth (primary teeth).

Modern dentistry provides a Dental Formula known as ICPM:

- I – incisors (cutting)
- C – canine (hold)
- P – Premolar (grinding)
- M – molar (grinding)

Adult – 2123, Child – 2120 According to the adult dental formula (ICPM = 2 1 2 3)

Central incisors = Rajdant

Lateral incisors = Basta

Canine = Danshtra

Premolar (1) = Hanvya (1)

Premolar (2) = Hanvya (2)

Molar (1) = Hanvya (3)

Molar (2) = Hanvya (4)

Molar (3) = Hanvya (5)

- Sequence of tooth eruption:12 Kashyapa Samhita has given a very scientific sequence of teething which starts during intrauterine life i.e., starts with insemination of dental bar (dental lamina).
- Nisheka (Insemination) occurs during 4-6 months of intrauterine period.
- Murti (Structural changes): Includes calcification and mineralization of teeth during the intrauterine period.
- Udbhid (teething): First teething after birth.
- Purvaroop (Preliminary Indications): Various symptoms that occur before teething.
- Upadrava (complication): These are abnormalities that usually occur at the time of teething, which are related to the shape of the teeth and various disorders occurring during teething.
- Prashasta (correct) / aprashasta (improper) teething: These include various signs and symptoms indicating the future outcome of the dentition.
    - Upakrama of Complications (Treatment Procedure): Includes treatment of complications suffered by children during teething.

Types of teething: Four types (normal and abnormal)

1. Samudga- A joint with a socket, like a cup. These types of teeth develop in the Kshaya (malnutrition) state of the child. These teeth can fall out very often.
2. Samvrita- They are inauspicious and remain dirty.
3. Vivritis- These types of teeth cause excessive salivation as they are not completely covered by the lips, there are many chances of causing dental disease in such individuals.
4. Danta Sampata- These are auspicious teeth that have all the characteristics of healthy teeth.

Criteria for Prakrut (Healthy) Danta: Healthy and normal teeth are called "Danta-sampat". Kashyap stated the criteria that the teeth which are Poorna (thirty-two in number), Sama (normal length), Ghana (compactly arranged), Shukla (pearl white), Snigdh (shining), Slakshna (smooth), Nirmal (pure), Niramaya (without any dental disease) are called perfectly healthy teeth. The period of tooth eruption and its effects:13 Kashyapa narrates that if teeth erupt before 8 months of age, there is always a chance of dental complications and these are listed as follows:

1. 4th month- Weak, decaying, soon afflicted with so many diseases.
2. 5th month – trembling, morbid sensitivity and easily affected by various diseases.
3. 6th month – upside down, dirty, discolored, prone to tooth decay.
4. 7th month – two pockets divided, stripped, broken, dry, irregular and protruding.
5. 8th month - best qualities, completeness, uniformity, compactness, whiteness, fatness, smoothness, purity.

Diseases related to Danta: Sushruta described various types of Danta vyadhi and their chikitsa. There are fifteen Dantamulagat Vyadhis i.e. Shitad, Dantapupput, Dantaveshtak, Shaushir, Mahashaushir, Paridar, Upakush, Dantavaidarbhya, Vardhan, Adhimansa, Dantanadi (Tridoshaj) in Nidan sthana and eight Dantaroga in chikitsa sthana i.e Dalan, Krumidant,Dantharsh,Bhanjanak, Dantasharkara, Dantakaplika , Shyawadanta, Hanumoksh 5. Yogratnakar also described Dantaroga and her Samanya chikitsa under Mukharoga Nidana similar to Sushruta. He described eight Dantaroga in Chikitsa sthana and 16 Dantamulgata vyadhi; Khallivardhan, Dantavidradhi and Karal besides Sushruta.

Sharangdhara explained the 13 Dantamulgat Vyadhis; Vidarbha, Adhidanta, Nadivran & Dantavidradhi in addition to Sushruta.

Dental Anatomy:[14] A tooth is a hard calcified structure found in the jaws or mouths of many vertebrates and its function is chewing.

Functions of teeth: The function of the teeth h depends on the type of teeth.

1. Incisors – for cutting food
2. Canines- To tear food, i.e., tearing
3. Premolars- To crush food

4. Molars - For grinding food

Histology of teeth:[15] A tooth consists of enamel, dentin, pulp cavity and cementum.

1) Enamel – White (translucent), hard and resistant layer covering the crown of the tooth, protecting the tooth from mechanical and chemical attack. Enamel rods that run parallel to each other and protrude perpendicularly from the dentin surface. Enamel meets dentin at the EDJ and cementum at the cementoenamel junction (CEJ).
2) Dentin - It is a hard, yellowish material that lies under the enamel, surrounds the pulp chamber of the tooth and is sensitive to stimuli. It surrounds the entire nerve/pulp of the tooth. Together with the pulp, it forms the pulpo-dentine organ of the tooth.
3) Pulp Cavity – The dental pulp is a pink and soft organ consisting of connective tissue, blood vessels, nerve axons and participates in dentinogenesis. The crown of the tooth contains the coronal pulp, while the radicular pulp extends from the cervical part of the crown to the apex (tip) of the root.
4) Cementum – Relatively soft bony tissue that covers the surface of the root. It meets the enamel in a line surrounding the tooth called the cemento-enamel junction. It attaches to the periodontal ligament, which is supposed to be attached to the bony socket of the alveolar bone supporting the tooth.

DISCUSSION

In Ayurveda, the formation of the human body is attributed to the contributions of both the mother (*Matruja Bhava*) and the father (*Pitruja Bhava*), along with the Atma (soul), Satmya (adaptability), and other factors. According to the classical concept of Beeja (zygote) and Beejabhaga (gamete components), specific parts of the body originate from either parent.

Pitruja Bhava (Paternal Factors):

Pitruja Bhava refers to the traits and bodily components inherited from the father. These are primarily derived from the Shukra (sperm) and are considered responsible for the hard and structural components of the body.

Danta (Teeth) as Pitruja Bhava:

According to *Ayurvedic embryology*, Danta (teeth) are considered to be Pitruja Bhava, i.e., they are formed due to the paternal genetic and constitutional influence.

- References: As per *Charaka Samhita Sharira Sthana 4/12*, teeth, nails, hair of the beard, bones, and sinews are Pitruja, as they resemble the paternal contribution of firmness and structure.
- Reason: Teeth, being Asthi-pradhana avayava (bony structures), are structurally rigid and durable. As bones (*Asthi dhatu*) are also Pitruja, and teeth are considered Upadhatu (secondary tissue) of Asthi, they share the same lineage.

Importance of this Concept:

1. Hereditary Dental Traits: This explains the Ayurvedic viewpoint on why dental characteristics such as size, alignment, and strength often resemble those of the father.
2. Genetic Disorders: Any Pitruja dosha or vitiation in the paternal Beeja can affect the proper formation and development of teeth.
3. Treatment Relevance: In Ayurvedic diagnosis and Beeja dosha vichara (evaluation of gamete defects), if there are deformities or abnormalities in teeth, it may suggest paternal lineage issues or Shukra dosha.

Modern Correlation:

Modern genetics also supports that many dental characteristics are hereditary. Traits such as malocclusion, enamel quality, number of teeth, and jaw size often show strong paternal inheritance patterns, aligning with the Ayurvedic idea of Pitruja Bhava influencing teeth.

CONCLUSION

In summary, Danta (teeth) are classified as Pitruja Bhava in Ayurveda due to their origin from the father's Shukra and their structural, bony nature. This ancient understanding reflects a profound grasp of heredity and the genetic role of the father in shaping the hard tissues of the body.

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