“Comprehensive study on Danta Shārēra in different Prakruti W.S R. to Ekadosha Prakruti”

1. Dr Santosh Naik*, 2. Dr Jyothi T**

* HOD & Associate Professor, Department of Shalyatantra,
**Associate Professor, Dept. of Shareera Rachana,
Shri VeeraPulikeshi Rural Ayurvedic Medical college, Hospital and Research Centre, Badami, Karnataka-587201

ABSTRACT

Dental appearance is an important feature in determining the attractiveness of a face, and thus plays a key role in human social interactions. In Ayurveda Danta is considered as the one type of Asthi called RUCHAKĀSTHI. RUCHAKA means “that which imparts taste” ASTHI means “bone”. Thus Ruchakaasthi means “that which is associated with the function of imparting taste”. But Shaarangadhara considered it as an Upadhatu of Asthi.

Two types of dentition told, Primary dentition consists of 20 teeth & secondary/permanent dentition consists of 32 teeth. We get different Lakshanas related to Danta in different Prakruti’s in our Samhitas. A White and Moist tooth indicates fluids of ideal quality, small teeth with roots well covered by gums indicate muscular tissue of good quality. Large teeth suggest ideal bony tissue. Pearly white and well set teeth indicate ideal generative tissue. In this work study was done on Danta Rachana told in different Prakruti which are told in our classics and a survey study on Ekadosha Prakruti’s. Through this study we can assess the health of an individual using the status of Danta Rachana; we can also advise them if any care is needed.

Key Words:- Danta; Asthi; DantaSampat; Prakruti.
INTRODUCTION

“Danta” refers to tooth and “Shastra” the science. So Danta Shastra or dentistry refers to the Science which deals about the teeth. In Āyurveda it is one of the sub specialties of the Shaalakya Tantra, the branch of Āyurveda which deals with the diseases of head and neck.¹ Danta and Dantolukala are considered as the Asthi & its number is given as 32 each.²

When we go through the qualities of Prakruti in various Samhitas there we get different Lakshanas related to Danta. While explaining about the Prakruti Lakshanas in the Vimana Sthana 4th chapter it is mentioned that Kapha Prakruti person will have well arranged teeth.³

As per modern view Tooth is one of the hard conic structures set in the alveoli of the upper and lower jaws of the mouth & used for cutting and chewing food and assisting in articulation.⁴

Often thought to be only the presence or absence of tooth decay, oral health actually includes all the sensory, digestive, respiratory, structural, and emotional functions of the teeth, the mouth, and associated facial structures. Like other aspects of health, oral health must be considered in the context of social, cultural, and environmental factors.

The concept of Dantashaareera is available in our texts in a scattered manner; hence there is a need to compile it. Lakshanas of Dantasampat are same as an ideal occlusion in modern dentistry. In this study survey was conducted on Dantashaareera in different Prakruti. Most cases of malocclusion are hereditary; preventing the disorder can be difficult. Parents of young children should limit pacifier and bottle use to help reduce changes in the development of the jaw. And also early detection of malocclusion may limit the duration of treatment needed to correct the problem. This study helps to identify the type of occlusion or malocclusion in different Prakruti and helps to reduce its chances by taking proper care and to detect and treat the problem early which allows for quicker results and more success.

OBJECTIVE:

1. Comprehensive study on Danta shaareera.
2. Conceptual study on Danta shaarera in different prakruti as explained in our classics.
MATERIALS AND METHODS

Source Of Data:-

During the study conceptual data’s were collected from Bruhatrayis, Laghutrayis and other classical books, including the journals, presented papers, previous thesis work done along with the details of modern dentistry.

Āyurvedic concept of Dantasampat was given more importance.

For the observational study, minimum 35 apparently healthy individuals in each Prakruti were selected from in and around Alva’s ayurveda medical college campus, Moodbidri, within age group of 25 – 44 years of either sex, were incorporated for the study.

Study Design:-

- A separate study proforma was designed for the assessment of Prakruti with the help of senior dissertation work and proforma for assessment of Danta Shaareera based on Dantasampat Lakshanas. The questionnaire was based on the Lakshanas of different Dehaprakruti and Dantasampat Lakshanas which were collected from different Āyurvedic classics.
- Minimum 35 apparently healthy individuals in each Ekadoshapradhanaja Prakruti within the age group of 25-44 years irrespective of sex were selected.

INCLUSION CRITERIA:-

Minimum 35 individuals in each Prakruti within the age group of 25-44 years of both sex were selected from in and around Alva’s ayurveda medical college campus, Moodbidri.

EXCLUSION CRITERIA:-

- Denture wearer and who is undergoing dental treatment.
- Fluorosis, Edentulous, Whose deciduous teeth have not fallen.
- Chronic diseases of the oral cavity, nutritional disorders which affect the teeth.
- Dental caries with grade II to VI (G.V.Black’s classification).
- Who is taking medicines which cause discoloration of teeth.
- Who is having/had the habit of chewing pan, gutka, tobacco etc.
MATERIALS:-

1. Gloves and mouth mask
2. Cotton
3. Plain mouth mirrors.
4. Periodontal probes & Tweezers.
5. Tray
6. Containers (1 for used instrument & 1 for sterilized instruments).
7. Concentrated sterilizing solution. i.e. Dettol
8. Disinfectant hand wash
9. Cloth & hand towels
10. Observational proforma.
11. VITA Shade guide for assessing color of teeth.

FIGURE NO1: - VITA SHADE GUIDE

METHODOLOGY:

Specially designed proforma were assigned to each volunteer for the assessment of Prakruti and Dantashaareera. An examination was done by the researcher with trained assistant. Examination was done with adequate natural illumination. During the examination first the Prakruti assessment was done later the Danta Pareeksha was done properly. Poornata was studied by counting the number of teeth. Color of the teeth was assessed by using the Vita shade guide. Sthiramoola of Dantabandhana was assessed by asking the questions. Other criteria were assessed by simple visualization.
ASSESSMENT CRITERIA:

Assessment was done based on these Lakshana:-

TABLE NO. 1 :– ASSESSMENT CRITERIA

<table>
<thead>
<tr>
<th>Danta:–</th>
<th>Dantabandhana:–</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poornata-completeness [Number of teeth].</td>
<td>Samata- Sameness- gums equally cover the teeth.</td>
</tr>
<tr>
<td>Samata- Sameness- of height</td>
<td>Raktata- Reddish/pinkish color of gums- dark or pale</td>
</tr>
<tr>
<td></td>
<td>-in alignment</td>
</tr>
<tr>
<td>Ghanata- Compactness</td>
<td>Sthiramoola- Steady root</td>
</tr>
<tr>
<td>Shuklata- Whitish brown/Whitish yellow/Whitish grey.</td>
<td></td>
</tr>
<tr>
<td>Kinchiduttaronnatata- All upper teeth fit slightly over the lower teeth.</td>
<td></td>
</tr>
</tbody>
</table>

The data thus collected were entered in to a master chart. Since the data were mostly qualitative, percentages were computed for comparison.

OBSERVATIONS

In this study on Dantashaareera in different Ekadoshaja Prakruti 105 volunteers were observed. The observations according to the Age, Sex etc, and Danta Lakshana &Dantabandhana Lakshanas are given henceforth.

TABLE NO. 2:- Distribution of Volunteers in each Prakruti

<table>
<thead>
<tr>
<th>Name of the Prakruti</th>
<th>Number of Volunteers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vata Prakruti</td>
<td>35</td>
<td>35%</td>
</tr>
<tr>
<td>Pitta Prakruti</td>
<td>35</td>
<td>35%</td>
</tr>
<tr>
<td>Kapha Prakruti</td>
<td>35</td>
<td>35%</td>
</tr>
</tbody>
</table>
**GRAPH NO.1:** Distribution of Volunteers in each *Prakruti*

![Graph showing distribution of volunteers in Vata, Pitta, and Kapha Prakruti]

**TABLE NO.3:** Distribution of Volunteers according to Brushing habits

<table>
<thead>
<tr>
<th>Brushing habits</th>
<th>No. volunteers in <em>Vata Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Pitta Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Kapha Prakruti</em></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>23</td>
<td>65.7%</td>
<td>21</td>
<td>60%</td>
<td>19</td>
<td>54.2%</td>
</tr>
<tr>
<td>Twice</td>
<td>12</td>
<td>34.2%</td>
<td>14</td>
<td>40%</td>
<td>16</td>
<td>45.7%</td>
</tr>
</tbody>
</table>

**GRAPH NO.2:** Distribution of Volunteers according to Brushing habits

![Graph showing distribution of volunteers brushing once and twice]

**TABLE NO.4:** Distribution of Volunteers according to Poornata

<table>
<thead>
<tr>
<th>Poornata</th>
<th>No. volunteers in <em>Vata Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Pitta Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Kapha Prakruti</em></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>34</td>
<td>97.1%</td>
<td>31</td>
<td>88.5%</td>
<td>32</td>
<td>91.4%</td>
</tr>
<tr>
<td>Absent</td>
<td>1</td>
<td>2.8%</td>
<td>4</td>
<td>11.4%</td>
<td>3</td>
<td>8.5%</td>
</tr>
</tbody>
</table>
GRAPH NO.3: Distribution of Volunteers according to *Poornata*

![Graph showing distribution of volunteers according to Poornata]

**TABLE NO.5: Distribution of Volunteers according to *Samata; Level***

<table>
<thead>
<tr>
<th>Samata; Level</th>
<th>No. volunteers in <em>Vata Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Pitta Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Kapha Prakruti</em></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>5</td>
<td>14.2%</td>
<td>22</td>
<td>62.8%</td>
<td>30</td>
<td>85.7%</td>
</tr>
<tr>
<td>NO</td>
<td>30</td>
<td>85.7%</td>
<td>13</td>
<td>37.1%</td>
<td>5</td>
<td>14.2%</td>
</tr>
</tbody>
</table>

GRAPH NO.4: Distribution of Volunteers according to *Samata; Level*

![Graph showing distribution of volunteers according to Samata; Level]

**TABLE NO.6: Distribution of Volunteers according to *Samata; Alignment***

<table>
<thead>
<tr>
<th>Samata; Alignment</th>
<th>No. volunteers in <em>Vata Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Pitta Prakruti</em></th>
<th>Percentage</th>
<th>No. volunteers in <em>Kapha Prakruti</em></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>15</td>
<td>42.8%</td>
<td>25</td>
<td>71.4%</td>
<td>31</td>
<td>88.5%</td>
</tr>
<tr>
<td>NO</td>
<td>20</td>
<td>57.1%</td>
<td>10</td>
<td>28.5%</td>
<td>4</td>
<td>11.4%</td>
</tr>
</tbody>
</table>
TABLE NO.7: Distribution of Volunteers according to Ghanata

<table>
<thead>
<tr>
<th>Ghanata</th>
<th>No. volunteers in Vata Prakruti</th>
<th>Percentage</th>
<th>No. volunteers in Pitta Prakruti</th>
<th>Percentage</th>
<th>No. volunteers in Kapha Prakruti</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>13</td>
<td>37.1%</td>
<td>18</td>
<td>51.4%</td>
<td>27</td>
<td>77.1%</td>
</tr>
<tr>
<td>NO</td>
<td>22</td>
<td>62.8%</td>
<td>17</td>
<td>48.5%</td>
<td>8</td>
<td>22.8%</td>
</tr>
</tbody>
</table>

TABLE NO.8: Distribution of Volunteers according to Danta Varna (Shuklata)

<table>
<thead>
<tr>
<th>Shuklata</th>
<th>No. volunteers in Vata Prakruti</th>
<th>Percentage</th>
<th>No. volunteers in Pitta Prakruti</th>
<th>Percentage</th>
<th>No. volunteers in Kapha Prakruti</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitish yellow</td>
<td>14</td>
<td>40%</td>
<td>22</td>
<td>62.8%</td>
<td>25</td>
<td>71.4%</td>
</tr>
<tr>
<td>Whitish Brown</td>
<td>12</td>
<td>34.2%</td>
<td>8</td>
<td>22.8%</td>
<td>9</td>
<td>25.7%</td>
</tr>
<tr>
<td>Whitish Grey</td>
<td>9</td>
<td>25.7%</td>
<td>5</td>
<td>14.2%</td>
<td>1</td>
<td>2.8%</td>
</tr>
</tbody>
</table>
DISCUSSION

_Danta_ is a masticator organ, a part of _Mukha_ situated inside the mouth which is concerned with _Charvana_. It is taken as a tooth because these are the accessory digestive organ, set in the alveoli of the upper and lower jaws of the mouth and used for cutting and chewing food and assisting in articulation.

**PRAMĀNA OF DANTA:**
According to Āyurveda, _PrakrūtaDanta_ is two _Angula_ in length. In that the part which is covered by the _Mamsa_ is one _Angula_ and the exposed part is again one _Angula_. Here one _Angula_ is equal to approximately 1.8 cm, so total length of a tooth is 3.6cm.

- According to _Sushrutha_, _Danta_ and _Asthi_ both are from _Pitruja Bhava_. The _Danta_ are composed of _Asthi_ and _Majja_ and hence its origin is from _Pitruja Bhava_.
- Both predominant in _Pruthvi_, this can be compared with the histological composition of tooth and bone. Both contain calcium and other inorganic salt which gives hardness to bones.

**DANTA AS UPADHĀTU:**
In Āyurveda, only _Āchaarya Shaarangadhara_ has considered _Danta_ as _Upadhatu_ of _Asthi_.

**DISCUSSION ON THE CONCEPT OF PRAKRUTI:**

Knowledge about the _Prakruti_ not only helps in following normal good health but also helps in treatment, dosage of medicines, types of medicines to be prescribed as well as in following _Pathya_, etc.

_Vāta Prakrutidanta shaareera_ - Parushata, _Tanu_: - _Rooksha_, _Alpa_ & _Sukshma_

_Dantashāreera in PittaPrakruti_ - _Vishuddha Varna_

_Dantashāreera in KaphaPrakruti_ – _Subandhana_

**PRAKRUTI:**
Among the 100 volunteers 35% were _VataPrakruti_, 35% were _PittaPrakruti_ and 35% were _KaphaPrakruti_.

---

**GRAPH NO.7 :- Distribution of Volunteers according to Danta Varna (Shuklata)**

![Graph showing distribution of volunteers according to Danta Varna]
CONCLUSION

Among the types of teeth, *Rajadanta* compared to central incisors, *Vasta* can be compared to lateral incisors and *Damstra* can be compared to Canines and *Hanavya* to premolars and molars based on its position. *Dantotpatti* can be correlated to the eruption of teeth as both explain about the appearance of teeth in the oral cavity. Based on its source of formation and is characteristics, *Mala* of *Danta* can be correlated to dental plaque. *Krimidanta* of *Āyurveda* can be linked to the dental caries based on the similarity in its cause and signs and symptoms. *Dantasampat* can be correlated to the normal physio anatomy of teeth and gums along with its normal alignment.

- Based on observational study, we can wrap up the *Dantashaareera Lakshanās* in different *Prakruti’s* as
  - *Samata* in level and alignment of teeth is present in *Kapha Prakruti* and less observed in *Vata Prakruti* persons.
  - *Ghanata* is more seen in *Kapha Prakruti* persons.
  - Whitish yellow color is predominantly seen in *Pitta* and *Kapha Prakruti* persons.
  - *Kinchiduttaronnalata* is seen in all the *Prakruti*.
  - *Samata* in *Dantabandhana* is more seen in *Kapha Prakruti*.
  - Dark red and dark pink color of *Dantabandhana* is more observed in all *Prakruti*.
  - *Dantabandhana Sthiramoola* is predominantly seen in *Kapha Prakruti* volunteers.
  - Dental caries more observed in *Vata Prakruti* compared to other *Prakruti’s*.

That is *Subandhana* of *Danta* is seen in *Kapha Prakruti*. The sequential order of *Subandhana* is *Kapha Prakruti > Pitta Prakruti > Vata Prakruti*. 
REFERENCES:

1. Raja Radhakantadev Bahadur, Shabdakalpa Druma, Dwitiya khanda, Rashtriya Sanskrit Samsthan Newdelhi 2006; Pp- 700 P-194