



A Various Types of Asthi Described In Ayurvedic Samhitas: A Review Article

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Abstract

Ancient seers of Ayurveda have classified the elements of the body under three fundamental components- Dosha, Dhatu and Mala. According to Acharya Sushruta the pioneer of Ayurveda, Asthi is last part of body to be destroyed. Knowledge of Asthi can be traced back from Vedas passing chronologically down to Samhitas. Asthi plays the role of kernel of body on which whole system depends. Profound description is illustrated in classical texts about nomenclature, enumeration, types, Bhagna and its treatment. Especially types and nomenclature are to be discussed in light of modern and classical grammar. Here main aims are Analytical discussion about Sankhya and nomenclature of Asthi, Asthi Prakaras and grammatical validation. As knowledge about Asthi dates from Pre-Vedic period concepts, believes, methods, usefulness etc have changed from time being. The nomenclature of Asthi and Bhagna and Prakar is also same as in the contemporary knowledge and profoundly described.

Key word- Asthi Bhagna, Asthi Sankhya, Asthi Prakara.

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INTRODUCTION

Being an eternal science, 'Ayurveda', the science of human life deals with physical, psychological as well as spiritual well being of an individual. It covers all the spheres of human life.

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As we all know that, this entire world can be divided into two types of material i.e. soft and hard. Soft and hard though are antonyms yet are equally important for sustainability. This division is also evident in human body. Here several parts are soft organs and rest hard. Hard part of body is skeleton system which provides support and shape. Thus, parts which provide support, shape, helps in locomotion, protection to soft organs are hard parts forming nutshell of human body, comprising bones, teeth etc.

According to **Acharya Susruta** the pioneer of Ayurveda explained, the organs of the body destroy after death except the Asthi. Asthi is the last to be destroyed, even after death when body is buried or burnt the remnants left are bones. Knowledge of Asthi can be traced back from Vedas passing chronologically down to Samhitas. Considering its history of description and importance many methods and thought can be visualized in classical texts. Each explains their own way of enumeration and nomenclature. Literal Review in Atharva Veda, Narayana is author of the Atharva hymn which takes us back to that period of prehistoric or semi-mythical age of the medicine men who combined the functions of priest and physician. Narayana is representative of this Indian medicinal tradition. He is also

author of famous “Purusha Sukta” (RV.X.90=AV.XIX.6), which contains many anatomical references. The hymn X.2.1-8 is reported to show how Artharva mentioned bones of human body. It is a hard substance which remains even after most part of body has been decayed.

According to Susrutha - It is substance which remains even after else very part like flesh, muscles etc. are shattered even after burying the body after death. It remains as last identity of person even after demise.

According to Shabdastomkara - It is part of body which remains till long period even after death of body. “Hada” is synonym of Asthi.

Kapala-Asthi - These are flat in nature. The above and below layer is separated and hollowed parts are made. Red Majja is filled in it. Asthi's present in the Janu, Nitamba, Amsa, Ganda, Talu, Shankha, Vankshana and Madhyashira are known as Kapalasthi.

Valaya-Asthi - These are round in shape. The ribs of the chest are of this type. Asthi in Ura, Parshva and Prustha are Valayasthi.

Taruna-Asthi - These are soft in nature. They are mainly in between joint of vertebrae, two vertebrae there is a circle of Tarun Asthi. Hence, any jolt to the body, till it reaches the brain becomes mild.

Asthi's present in the Ghrana, Karna, Greeva and Akshikuta are called as Tarunasthi.

Ruchaka-Asthi - The bones which help in taste or which are to enjoy food with taste. The Dashanas are known as Ruchak Asthi. These are 28 or 32 in all. It is also considered as Updhatu of Asthi by Sharangdhar.

Nalika-Asthi - These are long like tubes and hollow from within. They are stuffed with Majja. Till the age of 20 years, the color of this is red, and then it turns yellow. These types of bones are in the hands and legs. Asthi which remains from above description are listed in this type.

Discussion

Enumeration i.e. Sankhya of human parts is as important as the knowledge particular organ as stated by Acharya Charaka.

According to Chakrapani – Knowledge of enumeration of parts (Avayavaas) of human body is important in Clinical practice as it is prime source of evidence. Acharya states that Prayogan of Adhayaya Sharir Sankhya Shariram is simply to know the whole body Sankhya Pramana. Limitation of Pramana of Avayavaas is Sankhya Pramana. Importance of knowledge of Sharir Sankhya is given very efficiently in end of seventh chapter of Sharir Shtana. It illustrates – the Clinician

who has knowledge about human body with its all parts with their enumeration never gets distracted as the distraction faced by Clinician who doesn't have Tatwapurna (analytical) knowledge about Sharir Sankhya

According to modern anatomy, there are about 206 bones in the adult human skeleton. The early Indian anatomist, on the other hand, count either 360 (Aterya) or 300 (Susrutha) bones. This large excess is principally due to the fact that (besides including the teeth, nails, and cartilages) they counted prominent parts of bones, such as are now known as 'processes' or 'protuberances', as if they were separate bones. Their reasons for counting in this manner were mainly three.

- Sometimes processes or protuberances of bones were popularly known by special names, and regarded as special bones. Examples are the malleoli, or ankle bones and the styloid processes or wrist-bones.
- In other cases the separate enumeration of process or protuberances was due to an exaggerated regard for the homological principle. For example the right and left halves of the skeleton were regarded as homologous.
- Sometimes, again it was a fancy for artificial symmetry which led to the multiplication of bones. This can be

cause of assumption of the existence of a third joint in the thumb and great toe, and of twelve costal tubercles instead of ten.

We can trace this variation in nearly all Asthi Sankhya but major variations can be traced in enumeration of ribs, vertebrae, phalanges etc. Like while enumerating ribs Charaka states that there are 24 Parsvaka or ribs, 24 Sthalaka, sockets, and 24 Arbuda (tubercles) and of course as indicated by Susruta manner of counting, it is to be understood that there are 12 of such kind, that is, altogether thirty six, on each side.

As in Greeva Charaka makes the number of neck-bones to be fifteen. The Susruta makes it to be only nine, while the list of Vagbhata makes it to be thirteen. As a matter of fact, the number of the cervical vertebrae is seven. Susruta counts nine neck-bones, each of the six upper vertebrae as single bone; but the seventh he treated in the same way as he treated the thoracic vertebrae, that is to say, he counted it as consisting of three bones; viz. a body plus spine and two transverse processes. He thus obtained $6+3=9$, bones.

Charaka obtained his total of fifteen bones by treating the cervical column somewhat similarly to the vertebral column. As regards the count of Vagbhata,

his total of thirteen bones probably represents, as usual, a compromise between the systems of Charaka and Susruta.

So, total types can be summarized in five groups like

1. Tarunaasthi (Undeveloped) and Pakvaasthi or Ghanasthi (Fully ossified)
2. Kapalaasthi-(Great surface area) and Akapalaasthi (Less surface area).
3. Vartulakara (Valayasthi elastic and round) and Avartulakara (not round in shape).
4. Nalakaasthi (Long and for movement) and Analakaasthi. (Other than cylindrical)
5. Ruchaka (with sense power) and Kharasthi (normal bone).

The bones sustain trauma in different ways. Acharya Susruta has paid due attention to this fact and observed that all the bones do not show similar type of effect due to trauma. As we already know that Acharya have particularly described the types of fractures occurring in each type of bone mentioned as below

1. **Tarunasthi** - Namayante
2. **Nalkasthi** - Bhajayante
3. **Kapalasthi** - Vibhidhyante
4. **Ruchkasthi** - Sphutayante
5. **Valayasthi** – Sphutayante

CONCLUSION

As knowledge about Asthi dates from Pre Vedic period concepts, believes, methods, usefulness etc. have changed over time. As per basic definition of Asthi according to Susruta “it is substance which remains as the last identity of person even after demise.” Whereas in modern science it is simply defined as connective tissue i.e. hard in texture and characterized by the presence of Haversian system. Thus, a major difference arises as per definition so is the differences are seen in enumeration, types and function. The pentad division of Asthi Prakara was given mainly in accordance with Shalya Tantra especially for dislocation and fracture of bones. Basically this pentad division is not the types of bone, but actually these are principles for division which can be further elaborated like as Tarunasthi and Ghanasthi, Vartulakara and Avartulakar etc. This proves that classification of bones based on shape, size and texture was given firstly in Samhita not in modern text as per popular belief. Leaving Rucaka, as a type especially for Danta, rest can be classified under rest four as Tarunasthi-14, Valayasthi-110, Nalakasthi-125 and Kapalasthi-19; as per Acharya Susrutha. Type of bone and type of fracture in it, are in accordance with its modern counterpart

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as proved by literal grammatical study of Dhatupada and their Artha.

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