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ANATOMICAL AND PHYSIOLOGICAL PERSPECTIVE ON *ASTHI SHARIRA*: AN AYURVEDA REVIEW

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Abstract

Ayurveda gives prime importance to the *Dosha, Dhātu* and *Mala*, which are considered as physiological components of body. *Dhatus* are important components of body responsible for *Dharana & Poshana* of *Sharira*. *Asthi* is considered as one of the important *Dhatus* of body which forms body framework and provides supports to the whole body. Ayurveda *Samhitas* provides evidence based knowledge of *Asthi Sharir*. Modern science described *Asthi* as bone and *Asthi Sharira* as skeleton system which holds body structure. *Asthi* lives within the *Mamsa* (muscle) and considered as *Pitruja Avayava*, *Asthi* predominantly composed of *Prithvi Mahabhuta* along with other elements. *Asthi* is considered as seat of *Vata Dosha*, therefore when *Vata* increases *Asthi kshaya* may observe thus many diseases related to the bony tissues possess symptoms of *Vata* vitiation. Considering importance to the concept of *Asthi Sharira* present article explores anatomical perspectives on *Asthi Sharira*.

Keywords: *Ayurveda, Sharira, Asthi, Dhātu, Bones*

Introduction

The ancient approaches of Ayurveda explore different perspectives related to the anatomical view on human body. In this regards Ayurveda give importance to the skeleton system as *Asthi Sharira*. The *Asthi* is one of the important *Dhatu* of human body, which constituent frame of body provides support and rigidity to the body. Injury, trauma, surgical accident, congenital issues and aging, etc. may cause health problems related to the *Asthi Sharira*. *Asthi* is responsible for *Deha Dharana*, *Majja Pushti* and gives supports to the *Mamsa*. *Asthis* connects structures of body with each other and provides physical strength. *Asthi* remains for long time even after demise, remains even after death of body. *Hada*, *Keekas* and *Kulyamn* are synonyms of *Asthi* [1-5].

Asthi Sankhya:

- ❖ 360 in number as per *Charaka* and *Vagbhata*
- ❖ 300 in number according to *Sushruta*
- ❖ 206 in number according to modern anatomy

The different types of bones on the basis of their shape depicted in **Figure 1**; Ayurveda described different *Asthis* as follows:

- ✓ *Kapala-Asthi*
- ✓ *Valaya-Asthi*
- ✓ *Taruna-Asthi*
- ✓ *Nalika-Asthi*
- ✓ *Ruchaka-Asthi*

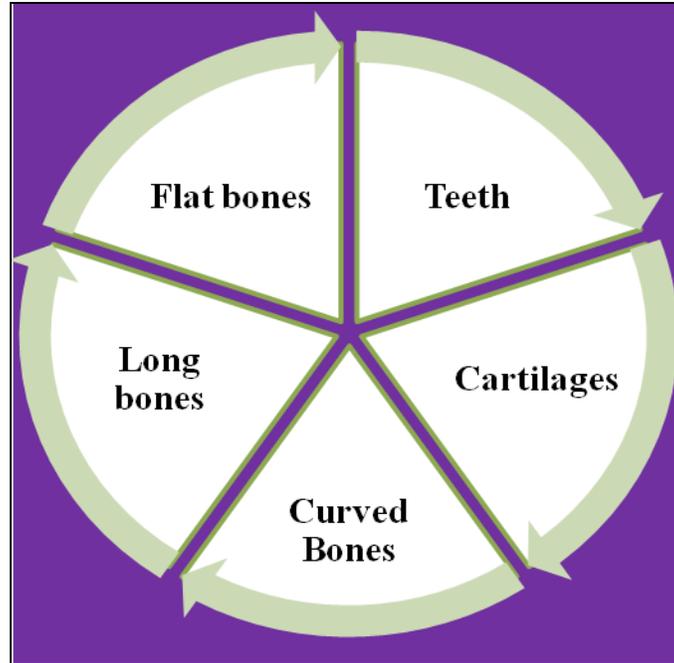


Figure 1: Descriptions of bony structures

Kapala-Asthis

Kapala-Asthis covers brain, flat in shape, present in *Janu, Nitamba, Talu* and *Amsa*, etc. ***Valaya-Asthis***

Valaya-Asthis are round and circle in shape, present in *Uru, Parshva, Pani* and *Valayasthi*, etc.

Taruna-Asthis

Taruna-Asthis are soft and not developed fully, bones of children can be considered as *Taruna Asthi*. *Ghrana, Akshikuta, Karna* and *Kantha*, etc. are examples of *Taruna Asthis*.

Nalika-Asthis

Nalika-Asthis are hollow and tubes like long bone, bones of *Pada Tala, Pada Anguli, Jangha Asthi, Bahu Asthi* and *Hasta Anguli*, etc. are *Nalaka Asthi*.

Ruchaka-Asthis

Ruchaka-Asthis are meant for the purpose of chewing food and *Dashanas* can be considered as *Ruchaka Asthi* [4-7].

Panchabhautika and Asthi:

Asthi is predominantly made from *Prithivi* and *Vayu Mahabhuta*, *Prithvi Mahabhuta* make *Asthi* strong and heavy while *Vayu Mahabhuta* make *Asthi* dry and rough. Therefore strong, firmness, roughness and dryness of *Asthi* can be attributed to their *Panchabhautika* compositions [7-9].

Physiological Importance of *Asthi dhatu*:

- *Asthi dhatu* connects body.
- *Asthi* gives structure and frame to the body
- Provides stability to the body
- Protects internal organs and hold them
- Nourishing the nervous tissue
- Provides structure that helps in movement and gives body posture

Abnormalities related to *Asthi*:

The abnormalities related to *Asthi* leads symptoms of *Vata* vitiation including pain and stiffness. *Vata* aggravating foods having *Sheeta*, *Khara* and *Ruksha* properties may leads symptoms of *Vata* vitiation, however the major causes of abnormalities in *Asthi* are related to the physical stress, excessive physical exercise, sedentary life style, jerks, long riding, involvement of long seating jobs, accidents, trauma, injury and wrong surgical

interventions, etc. mainly considered responsible for abnormalities related to the bones. The factors can causes problems like fatigue, joints problem, loss of scalp, pain, immobility, bone deformities and bent posture, etc. The major injury to bone described as *Bhagna* (fracture), as per *Acharya Sharangadhara* the *Bhagna* are different types; *Bhagna prista*, *Vivartita Vishlishata*, *Vidarita*, *Urdhvagata*, *Adhogata*, *Tiryaka kshipata* and *Sandhibhagna* [8-11].

Symptoms of Abnormal Growth (Excessive or Decreased) of *Asthi dhatu*:

- ❖ Hypertrophy of bones
- ❖ Hypercalcinosis
- ❖ Osteoporosis
- ❖ Joint pain
- ❖ Rickets
- ❖ Fatigue
- ❖ Bent posture
- ❖ Restricted movement

Conclusion

Ayurveda described bony tissues or skeleton system as *Asthi Sharira*; *Asthi* is considered as one of the important *Dhatu*s of body that helps to maintain body framework and provides supports to the body. *Asthi* lives within the *Mamsa* and described as *Pitruja Avayava* which predominantly composed of *Prithivi* and *Vayu Mahabhuta*. The roughness, firmness, solidity and toughness, etc. of *Asthi* can be attributed to their *Mahabhuta* compositions. The major abnormalities arises of *Asthi* involves symptoms of *Vata* vitiation.

There are different types of *Asthi* including *Kapala-Asthi*, *Valaya-Asthi*, *Taruna-Asthi*, *Nalika-Asthi* and *Ruchaka-Asthi* which found in various parts of body and perform specific functions.

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