

## Asthi Dhatu W.S.R to Kesh Kshaya

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### Abstract

*Dosha, Dhatu, and Mala* are regarded by Ayurveda as the fundamental components of *Sharir*. *Asthi* is an essential bodily *Dhatu*. *Asthi* gives strength, stability, maintains posture, supports *Majja Dhatu*, and imparts compactness to the body in addition to shielding internal organs from external shock. Each *Dhatu* has an associated *Upadhatu*, and these two combined help to fortify the body. The first *Dhatu* feeds the second, and they serve as the foundation for each. The continual dwindling of the *Dhatu*s is maintained by food in a balanced state. This indicates that the *Dhatu*s are interconnected, with changes in one leading to changes in the other. According to *samanya vishesh sidhant* if *Asthi Dhatu* get decrease than its dependent waste products (*Mala*) *Kesh* also decrease. *Asthi Dhatu* is dominated by *Prithivi Mahabhuta*, and *Vata* is the *Ashrayi Dosha* there. So here an attempt is made to understand the relation between *Asthi Dhatu* and *Kesh Kshaya* in Ayurveda as well as in modern science.

**Keywords** - Asthi, Dhatu, Dosha, Kesh, Mala, Vata.

### I. Introduction

One of the fundamental concepts of the Ayurveda is that body is made up of Dhosa, dhatu and mala If they are in equilibrium state with each other then body is in healthy state.<sup>1</sup> Dhatus are seven in number. These are- ras rakta Mansa meda asthi majja shukra<sup>2</sup>. Updhatus are Ras - stanya and aartav, rakta-sira and kandra, Mansa -vasa and shat tvacha, meda-snayu.<sup>3</sup>

Malas of Dhatu are- ras- kapha, rakta- pitta, Mansa- kha mala, meda -sweda, asthi -kesh loma, majja -snehakshi tvacha.<sup>4</sup> Dosha lives at Dhatu. When Dhatvaagni works on it they make Saar and Kitta

Bhag (Mala) during this process byproduct are also formed (Updhatu).

Asthi dhatu is 5<sup>th</sup> dhatu. When Asthi Agni work on meda dhatu asthi dhatu is originated and during this process byproduct also produced.<sup>5</sup> Vata Dosha (Ashayi) lies in bone (Dhatu)

According to the Ashrayaashrayee Bhava principle, since Vata and Asthi are inversely proportionate to one another, as Vata grows, Asthi drops<sup>6</sup>. All Internal matter is composed of the five elements (panchmahabhoot) - the five great elements combined in more or less proof<sup>7</sup>.

Prithivi Mahabhuta is dominant in Asthi Dhatu and Vata is the Ashrayi Dosha in Asthi. By influencing the prithvi mahabhuta elements of adipose tissue (meda dhatu), Agni and vayu mahabhuta significantly contribute to the solidification and roughness of asthi<sup>8</sup>. The acts of vayu and akasha mahabhuta cause bone porosity<sup>9</sup>.

Literature review of *Kesh*

- *Kesh* (scalp hair) and *Loma* (body hair) are waste products of metabolism of *Asthi Dhatu*.<sup>10</sup>
- *Kesh* is *Updhatu* of *majja dhatu*<sup>11</sup>

#### 1. *Kesha* and *Sapta Dhatu*

The skin receives nourishment from *Rasa Dhatu*. *Kesha* is appendage of *Twak*. Therefore *Kesha* also receives nutrients from the *Rasa Dhatu*. Premature graying of hair is caused by the vitiation of *Rasa Dhatu*. Individuals having *Twak Saarata* are characterized by unctuous, smooth, soft, clear, fine, less numerous, deep rooted and tender hair and lustrous skin.<sup>12</sup>

A person possesses *Meda Sara* exhibits *Snigdha Nakha, Kesha, Loma* etc as it gets *Snigdhatu* from *Meda Dhatu*.<sup>13</sup>

## 2. Kesha and Mala

*Kesha* is the *Mala* of *Asthi dhatu* and *Upadhātu* of *Majja* consequently whenever there is a *Vrudhi* and *Kshaya* of *Asthi Dhatu* there it will affect the growth and development of the hairs. This is observed through the sign and symptoms of the *Asthi Kshaya* i.e. falling of hair, nails, hair of the beard, including mustaches and teeth, excretion and looseness of joints. There is close relation between bone and hair.

## II. Discussion

Among the unique concepts in ayurveda is the *Ashraya - ashrayi Bhava*, which deals with the interrelation of *Dosha, Dhatu* and *Mala*. *Vata Dosha* (*Ashayi*) lives in bone (*Dhatu*).

According to the *Ashrayaashrayee Bhava* principle, since *Vata* and *Asthi* are inversely proportionate to one another, as *Vata* grows, *Asthi* drops.

*Purishadhara Kala* is the 5th *Kala* which exits in large intestine i.e. *Pakvashaya*. Functionally it separates constituents of *Kitta* or waste products in colon. *Vayu* which is produced in *Pakvashaya* (as *Anna Mala*) is *Poshaka Vayu*, which nourishes *Poshya Vayu* of body. As we know that *Pakvashaya* and *Asthi*, both are main seats of *Vata Dosha*. Therefore, increased or decreased formation of *Vata* and *Purisha* affects all sites of *Vata*, especially *Asthi Dhatu*. Hence *Purishadhara Kala* is also called as *Asthidhara Kala*.<sup>14</sup>

Relationship between *Vata Sthan Pakvashaya* and its *Ashray* (Bone), can correlate with the absorption of Ca and Vitamin D<sub>3</sub>.

From intestine by active and passive transportation. Passive- it's purely diffusion process, Active - it includes ATP and other series of procedure. *Vata dosha* is located in the *asthi's* (Bone) *Vata dosha* and *Asthi Dhatu* are inversely proposal. When *vata vrudhi* occurs it causes *Asthi Kshayjanya Vyadhiya*. *Ayurveda* fundamental concepts says that *Dosha, Dhatu* and *Mala* are closely related - *Vata Vrudhi = Asthi kshay = kesh kshay*.

We can correlate bone and hair health by some same factors which are responsible for both health and vitiation. These are vitamin-D, Calcium, TSH, collagen protein.

**Vit -D** - for Hair- play a role in the creation of new hair follicles. Hair follicles are the tiny pores from which new hair grow. New follicles help hair from falling prematurely.

For Bone- The main biological role of 1, 25-dihydroxyvitamin D is to maintain healthy levels of serum calcium and phosphorus in order to support

mineralization of the skeleton and sustain vital cellular activities<sup>15</sup>.

### Calcium

For Hair - Many of the other elements of the tip growth system, including as monomeric G-proteins, phospholipases, and the cytoskeleton, appear to interact with this Ca<sup>2+</sup>-signaling system, assisting in the integration of various processes to promote the localization of growth<sup>16</sup>.

For Bone-A protein hormone called osteocalcin is produced by osteoblasts as they actively add bone (calcium ion binding) under the direction of 1, 25(OH) D. Rather than being a byproduct of the breakdown of resorbed bone matrix, serum osteocalcin appears to be predominantly a spillover of osteoblast synthetic activity<sup>17</sup>.

### TSH

Thyroid hormones are directly involved in the functioning of hair follicles, thereby influencing hair growth and strength. hyperthyroidism is another cause of hair loss<sup>18</sup>.

For Bone -regulate the process of ossification thereby controlling the rate of bone maturation and linear growth. thyroid-stimulating hormone (TSH), derived from the anterior pituitary gland, and inhibits bone resorption by the osteoclast.

TSH inhibits markers of bone resorption with a single administration, and low TSH levels correlate with increased fracture risk.

### Collagen protein

Collagen contains amino acids used to build keratin, which is the protein that hair is primarily made of. As a result, collagen plays an important roles in the health of the scalp and hair follicles<sup>19</sup>.

For Bone-Type I collagen represents 90% of organic bone mass. All bones consist of living and dead cells embedded in the extracellular matrix that make up the skeleton and are constantly remodeling or turning over building new bone. While bone is essentially brittle, it does have a significant degree of elasticity, contributed chiefly by collagen. Like other connective tissue, bone is metabolically active throughout life. As we age, the balance between bone resorption and formation is compromised, resulting in a net loss of bone tissues. Ingestion of collagen has been shown to stimulate osteoblast formation and help build new bone and restore bone density loss.

### III. Conclusion

*Doshas* are interpreted as *gunatah* and *karmatah* and they are present in *Dhatus* as well as *Malas* to exhibit their qualities. The body's tissues have set areas to stay while being constantly in motion like the doshas are. This is due to *Dhatus*, who built the entire body from the ground up using tissues as its building blocks. Similar to how faeces and the colon are closely related, the *Malas* also remain in close proximity to the organs or locations where they are generated.

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