A STUDY OF CLINICAL CONDITION’S RELATED TO VITIATED ASTHI DHATU

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ABSTRACT

Ancient seers of Ayurveda have classified the elements of the body under three fundamental components- Dosha, Dhatus and Mala. These three entities are responsible for the maintenance of structural and functional integrity of the body. Among these basic elements, Dhatus are especially meant for Dharana & Poshana of Sharira. The equilibrium state of these Dhatus results in Arogya, where as any imbalance in it produces Vikara.

The Asthi is known as kernel of whole body as it provides structural shape and support. In the physical body, Asthi Dhatu is formed as Posaka (unstable) Medas Dhatu flows into the Purisha Dharana Kala and is digested by the Asthiagni. In addition to the formation of the bones of the body, teeth are formed through this process and are thus the Upadhatu (secondary tissue). The waste products (Malas) of this metabolic process are the hair and nails.

As Dhatus get vitiated by various Doshas so, is the Asthi Dhatu e.g. Asthi Pradosaj Vikara, Asthi Ksaya etc. Asthi also undergoes traumatal, musculo-skeletal injuries resulting in Bhagna. Thus, the Asthi undergoes both pathological and traumatic deformity. From the ancient time Asthi is elaborated on the basis of clinical importance. Various clinical conditions are scattered in Samhita related to Asthi Dhatu and its Upadhatu with their treatment, which are needed to be collected to provide a glimpse of extensive knowledge of Ayurveda on this specialty.

INTRODUCTION

Ancient seers of Ayurveda have classified the elements of the body under three fundamental components- Dosha, Dhatus and Mala. These three entities are responsible for the maintenance of structural and functional integrity of the body. Among these basic elements Dhatus are especially meant for Dharana & Poshana of Sharira.

The Asthi is known as kernel of whole body as it provides structural shape and support. As the toy is made up of straws and threads and pasted with the wet clay from outside, similarly Snayu (ligaments) are tied with Asthi (bones) in body. Ligaments are covered by Mansa (muscles) which are nourished continuously by the Dhamani and Sira (vessels) and then whole body is covered by Twacha (skin). This indicates that Asthi is meant for playing anchor role of frame work of body and is supported effectively by Snayu, Mansa, Dhamni and Sira.¹[1]

Asthi pathologies can be simple or complex. Pitta vitiation leads to weak or fragile bones that become osteoporotic and fracture easily. Pitta vitiation leads to bone infections (ostomyelitis) and inflammation. Kapha vitiation leads to excessively thick, dense bones. Other diseases of the bones are more complicated. Osteoarthritis is a combined Vata-Kapha condition in which Vata (age, motion and stress) is responsible for provoking growth in an irregular fashion leading to bone spurs. Rheumatoid arthritis is a Sannipatika condition whereby Vata pushes Kapha to cause irregular bone growth. Vata increases effect of Pitta causing inflammation and bone destruction. Ama is also present. Osteoblastic bone cancer is a Sannipatika condition whereby Vata simultaneously pushes Kapha (bone growth) and increases effect of Agni within the affected tissue creating a high metabolic state for growth. Osteoclastic bone cancer has a dual Dosha pathology whereby Vata combines with Pitta resulting in a high metabolic state that destroys bone tissue.
Traumatic deformities also exit with these pathologies which needs separate mention due to its broad description in classical texts, so here mainly pathologies other than traumatic origin are only considered.

EVALUATING THE ASTHI DHATU

As you cannot assess the health of the Asthi Dhatus directly except through medical testing, it is necessary to assess the Asthi Dhatus via the Upadhatus and Malas of its production. Thus, by examining the hair, nails and teeth the practitioner can infer the state of the Asthi Dhatus.

When the Asthi Dhatus is deficient, hair density becomes scant. Hair loss may be distributed throughout the scalp or in patches. In addition, palpation of the nails reveals that they have become thin and break easily. The teeth will appear crooked or become darker (gray) than usual. These findings are consistent with deficiency due to Vata vitiation.

When the Asthi Dhatus is in excess, hair density is fuller. In addition, the nails are thick and the teeth large, straight and white. These are the signs of Kapha vitiation within the Asthi Dhatus. However, these findings are more difficult to discern than deficiency as a person with a Kapha Prakruti will also exhibit these same findings. Thus, secondary signs of Kapha vitiation should also be observed most especially those within the digestive system such as sluggish digestion and the mind such as stubbornness. When these findings are present in addition to dense hair, thick nails and white teeth it can be assumed that Kapha has entered the Asthi Dhatus.

When Pitta has entered the Asthi Dhatus, the teeth and nails will become a pale shade of yellow and the hair will lose its color and turn gray. Over time, the nails will become weaker and the hair may fall out as deficiency sets in due to burn out.

IMPORTANCE OF DHATU PRADOSHAJA VIKARAS

Dalhana mentioned the reason behind explaining the Dhatus Pradosaja Vikaras separately, these are-

1. Chikitsa Vishesha Vijnanartha
2. Sukhasadhyatvadi Karma Bodhartham

Knowledge of these two is very much essential for a Vaidya, to avoid failure in practice. Chakrapani distinctly revealed that in some cases only Dosha Viparita Chikitsa will not bring complete relief to the patient. One should treat Dhatu also because of Ashraya Prabhava[2]. Chakrapani has used the term “Ashraya Prabhava” to indicate the significance of Dhatu in the treatment.

ASTHI PRADOSHAJA VIKARAS

The Asthi Pradosha Vikaras which are mentioned in different classics are tabulated below.

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<td>Kesa, Loma, Nakha, Smashru Dosha</td>
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Yogendranath Sen in commentary of Charaka Samhita mentioned that Kesha, Loma and Smashru are Malas of the Asthi Dhatus. This is the reason to consider Keshadi Doshas as one among the Asthi Pradosha Vikaras.

NIDANAS (PATHOLOGICAL CAUSES) FOR ASTHI PRADOSHAJA VIKARAS

The Nidanas of Asthi Pradosha Vikaras can be classified into Samanya and Vishesha Nidanas. These are as follows.

Samanya Nidana[5]

In Charaka Samhita and Astanga Hrudaya, Samanya Nidanas are mentioned for all the Dhatu Pradosha Vikaras. These are;

1. Dosha guna Sama Ahara and Vihara
2. Dhatus Viguna Ahara and Vihara
3. Ritu Viguna Ahara and Vihara

Dosha Guna Sama Ahara and Vihara:

The intake of Nidanas in the form of Ahara and Vihara which are having similar Gunas to that of particular Dosha Gunas leads to Dosha Vruddhi by Samanyam Vruddhikaranam Siddhanta. eg: if person consumes Rukshadi Guna Yukta Ahara and Vihara then there will be Vata Vruddhi.

Dhatu Viguna Ahara and Vihara: The intake of Nidanas in the form of Ahara and Vihara which are having dissimilar Gunas to that of particular Dhatu Gunas i.e Dhatu Virodhaka Swabhava by Vishesha Siddhanta.

Ritu Viguna Ahara and Vihara: The particular Ahara and Vihara which are dealt for each Ritu if not followed leads to Dosha vitiation i.e. Vipareeta to Ritucharya Palana.

Vishesha Nidana[6]

In Charaka Samhita some specific Nidanas are mentioned for Asthi Pradosha Vikaras like.

A. Ativyayama
B. Atisankshobha
C. Ativighattana
D. Vatala Ahara and Vihara[7]
POORVARUPA [8]

None of the Ayurvedic classics have mentioned Poorvarupa of Asthi Pradoshaja Vikaras. Ayyakta Lakshana or Alpa Vyakta Lakshanas are considered as Poorvarupa.

RUPA (Symptoms)

Each Asthi Pradoshaja Vikara has its own Lakshana. These are as follows.

1. Adhyasti [9] [10]: Adyasti means Adhika Asthi i.e., additional bone or extra bone.

Adhidanta [11]: Adhidanta means Adhika Danta i.e., additional tooth or extra tooth.

Dosha: Vata

Characteristic features: There will be an extra tooth eruption over the tooth and during the eruption pain associates and after the eruption pain subsides. This condition is called Adhidanta.

2. Dantabheda[11]: It is a condition where cutting type of pain in Danta is seen and is called as Dantabheda. It is also called as ‘Bhanjanaka’[13].

Dosha: Vata (Vaghbha)

Vata + Kapha (Susruta)

Characteristic features: It is a Vataja Vyadhi and there will be Toda, Bheda, Ruk and Sphutana in the Danta.

This is known as Dantabheda. It is a Kapha- Vataja Vyadhi in which teeth falls down due to Mukha Vakrata and associated with Teevra Ruja. This is known as Bhanjanaka.

3. Dantashoola[14] [15]: There will be a severe or acute pain in the tooth is called as Dantashoola.

Other names: Dalhana (Susruta)

Sheedadanta (Vaghbha)

Dosha: Vata

Characteristic features: The vitiated Vata Dosha causes intolerable cutting type of pain in the teeth and is called Dalana[16]. Ashtanga Hrudaya also opines same, but called it as Sheeta Danta because the patient is not able to eat or drink Sheeta Padartha.

4. Asthibheda[17]: It is a condition in which Bhidhyamanyasa Vyath (cutting type or splitting type of pain) will be present in Asthi. This is known as Asthibheda.

5. Asthishoolaa: It is a condition in which severe or acute pain in Asthi like Shanka Sputanavat. This is known as Asthishoola.

6. Asthitodaa[18]: It is a condition in which Vichinna Shoola (pricking or breaking type of pain) will be present in Asthi. This is known as Asthitoda.

7. Vivarnata: These disorders are two in number. They are Shayavadanta and Krimidanta[19].

8. Shayavadanta[20]: The blackish discoloration of tooth is called as Shayavadanta.

Dosha: Rakta + Pitta (Susruta)

Rakta + Pitta + Vata (Vaghbha)

Characteristic features: The vitiated Rakta along with Pitta, burns the Danta Twacha and causes the Shayavata (blackish) or Neela (blue) Varnata of Danta. This is known as Shayavadanta. The Danta becomes Shyava Varma due to the vitiation of Rakta, Pitta and Vata is known as Shayavadanta.

9. Krimidanta[21] [22]: The condition in which decay of tooth takes place is called as Krimidanta.

Dosha: Vata

Characteristic features: Due to the vitiation of Vata Dosha, Danta becomes Krishna Varma, Chidra Yukta, Chalayukta, Sravayukta, Teevra Rujayukta or sometime intermittent Shoola. This is known as Krimi Danta. Ashtanga Hrudaya explained Krimidanta in a more elaborate manner, which is as follows.

Vata vitiation- Danta Moola Shotha

Danta Kshata-Sushira

Danta Majja Shosha- production of Krimi

Danta Shoola, Srava- Chala Danta

Puya Rakta Srava- Danta Vidradi

10. Kesha, Loma and Smasru Vikaras- The Kesha, Loma and Samsru Vikaras are Indralupta, Ruhya, Khaliyta and Palitya.
11. **Indralupta**[23][24]: The partial or complete loss of hair from all over the body is called as **Indralupta**.

**Synonyms:** Ruhya, Chacha

**Dosha:** Tridosha + Rakta

**Characteristic features:** The vitiated Vata and Pitta affects the Roma Kupas and causes Roma Patana, then the vitiated Kapha and Rakta obstructs the Roma Kupas. So there is no chance for re-growth of hairs. This condition is called as **Indralupta**. Ashtanga Hrudaya also opines same. Karteeka opines that if hair loss is due to all over the body is called as Ruhya and fall of Smashru is known as **Indralupta**.

12. **Khalitya**[25][26]: The condition in which gradual loss of hair takes place in the scalp is called as **Khalitya**.

**Dosha:** Tridosha (Charaka)

Tridosha + Rakta (Susruta & Vagbhata)

**Characteristic features:** The vitiated Vatadi Doshas along with increased Snigdata in Kesha Moolas leading to gradual hair loss is called as Khalitya. The vitiated Vata and Pitta affects the Roma Kupas and causes Roma Patana, then the vitiated Kapha and Rakta obstructs the Roma Kupas. So there is no chance for re-growth of hairs. The complete loss of scalp hair is called Khalitya. The pathology of Khalitya is like Indralupta i.e., Vata and Pitta causes Kesha Shatana, Kapha and Rakta obstructs the Kesha Moolas so there is no chance of re-growth of hair but in Khaliyta Kesha Shatan is gradual or slow, not sudden as in Indralupta.

13. **Paliyta**[27][28]: This is condition in which discoloration of hair takes place is called as Paliyta.

**Dosha:** Tridosha (Charaka)

Pitta (Susruta & Vagbhata)

**Characteristic features:** The vitiated Vatadi Doshas and increased Sharira Ushnata removes the Snigdhata in Kesha Moolas causing discoloration of hair, it becomes Kapila Varna. Due to Krodha, Shoka and Shrama the increased Shaeera Ushnata and vitiated Pitta causes Pachana or discoloration of Kesha in the Shiras which is called as Paliyta.

Ashtanga Hrudaya also opines same as Susruta Samhita and mentions some other Lakshanans depending upon predominance of Doshas.

- In Vata predominance, hair becomes Shyava Varna, Ruksha, Khara and Jalaprabha.
- In Pitta predominance, hair becomes Peetabha with Daha.
- In Kapha predominance, hair becomes Snigdayukta, Shukla Varna and Sthula.
- In Tridosha vitiation all the above symptoms together present.

14. **Kunakha**[29][30][31]: Disease of the nail in which they are ugly in appearance. This condition is called as Kunakha.

**Synonyms:** Kuleena (Susruta)

**Dosha:** Pitta + Vata

**Characteristic features:** The vitiated Pitta and Vata localizes at the sides of the nail beds producing Daha, Paka and Vedana and is called as Chippo[22]. When this condition is in mild form, it is known as Kunkha and Nakha attains Rukshatva, Kharatva and Asita Varna. Other causes for Kunakha include Abhihghata. Ashtanga Hrudaya also opines same and added one more Lakshana i.e. Jwara.

Many other systemic skeletal defects are caused by Beej Dosha or by combination of Beej Dosha, Antah Sravi Srotodushi (hormonal defects), Poshan Janya and other Vikar factor like.

**Asthi Kshaya**

**Asthi Kshaya** (decrease in bone tissue) is a condition explained in Ayurveda, under the headline of Ashtadasha Kshayas. In Asthi Kshaya there is diminution of Asthi Dhatu. Similar to this, there is a condition known as Osteoporosis in western medicine which means ‘Porous bones’ or “the brittleness of the bones due to increased porosity from loss of mineral substance”, causing decrease in the bone tissue & leading to increased risk of fractures. According to the principles of Aashrayaashrayee Bhava, Asthi Dhatu is the seat of Vata Dosha and Asthi & Vata are inversely proportional to each other regarding increase and decrease. Increase of Vata leads to decrease of Asthi.

Dalhana explains Kshaya as Swapramaanaaani. Decreased either quantitative/ qualitative is Kshaya. Asthi Kshaya is decrease in Asthi Dhatu. This is denoted by either Asthi Kshaya or Asthi Soushirya.

**Asthi Kshaya** can be compared to osteoporosis (Decrease in bone mineral density). Asthi Soushirya is mentioned as symptom of Majja Kshaya.

**Asthi Vriddi**

Abnormal growth of bones and teeth are signs of Asthirviddhi. These conditions can be equated with Hyperostosis, Osteopetrosis (any degree of skeletal fragility increases the risk of fracture), Calcaneal Aclasis and Fluriosis.[33]

**Phakka Roga**[34]: If an infant is unable to walk at the age of one year, condition is known as Phakka Roga. Clinical features of this disease are similar to features of Rickets. In this condition calcification of cartilage fails and ossification of the growth zone is disturbed. Rickets affect the growing bones and therefore the disease develops during the period of most rapid growth of skeleton, i.e. first 3 months to 3 years of age. Osteoid tissue forms normally and the cartilage cells proliferate freely, but mineralization does not take
place properly. This result in craniotabes, rachitic rotary at the costochondral junctions, Harrison’s sulcus at the diaphragmatic attachments, enlarged epiphyses in limb bones and pelvic deformities are other common pathological conditions.

**Asthi Viddhradhi (Osteomyelitis)**[35]

In *Asthi Viddhradhi*, severe suppuration of *Asthivaha* and *Mansavaha Srotas* takes place. If there is any suppuration in bone, muscles and does not find exit, the patient suffers from burning sensation and destroys the bone tissue giving feeling of presence of foreign body. Due to surgical interventions the pus oozes out. Later on due to cracking of bone fat like, unctuous, white, cold and profuse amount of pus is discharged. This condition of *Asthi* is very painful condition similar to osteomyelitis.

**CONCLUSION**

Clinical importance of *Asthi Sharir* not only just comprises of traumatic deformities but a vast description of diseases on basis of *Doshic* predominance as seen scattered in classical texts. This review article shows the various pathological conditions of *Asthi*. Due to *Vikara* in *Dhatu* its *Updhatu* and *Mala* also gets *Vikrita* leading to various *Vyadhi*’s which we have already seen under *Asthi Pradoshja Vikara*. Classical texts not just gives sign and symptoms of disease but also gave treatment in local and systemic form. Now we can say that *Asthi Vikara* not just confined to traumatic injuries but various conditions of *Asthi Vikara* proves the depth of knowledge about both *Asthi Dhatu* and its clinical importance; thus providing a glimpse of extensive knowledge of *AYurveda* on this specialty.

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8. Ibid; Chikitsa Sthana chapter 28/19, Pp 617
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Cite this article as:

Source of support: Nil, Conflict of interest: None Declared