



UNDERSTANDING ASTHIKSHAYA & AYURVEDIC MANAGEMENT WITH NASYA

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ABSTRACT

Disease results from disequilibrium of the *Dosha*, *Dhatus*, and *Malas*, which is the equilibrium state. Either *Vrid-dhi* or *Kshaya* could describe this disequilibrium. Of the seven *Dhatus*, *Asthi* is the fifth. *Asthikshaya* is one of the 18 types of *Kshaya* that *Acharya Charaka* lists as a condition. *Asthikshaya* symptoms are like those of osteoporosis or osteopenia. It is a skeletal condition marked by low bone mass and micro architectural deterioration of bone tissue, increasing bone fragility and fracture susceptibility as a result. *Nasya karma*, the practice of administering medication through the nose, is the route to the *shiras*. *Nasya oushadhi* acts on the higher brain centers by traveling through the nose to the brain.

Keywords: *Asthikshaya*, Osteoporosis, *Nasya*

INTRODUCTION

Just as the trees remain firm on the ground by their pith inside them, similarly the body remains erect by the support of the bones inside it. Though the skin & muscles get destroyed after death, bones do not get destroyed since these are the essence of the body¹. *AsthiKshaya* occurs due to two main mecha-

nisms, one is due to lack of nutrients suitable for nourishing the bone because of malnutrition or the catabolic activity of *Vata Dosha*. The second cause is responsible for conveying the nutrition to the *As-thivaha Srotasas* a result of imbalanced *Agni* i.e, with *Jatharagni Mandya* and *Dhatwagni Mandya* that

leads to formation of *Ama*. It can also occur due to a combination of both. The *Lakshanas* described under the heading *Asthi Kshaya* closely resemble Osteoporosis and Osteopenia. Osteoporosis is defined by the World Health Organization (WHO) as a bone mineral density of -2.5 standard deviations or more below the mean peak bone mass (average of young, healthy adults) as measured by dual-energy X-ray absorptiometry². As life expectancy is increasing, osteoporosis and resulting fractures that are costly to the individual and healthcare system are a major public health problem. The International Osteoporosis Foundation estimates that osteoporosis affects about 200 million women worldwide. Osteoporosis is the second most common metabolic bone disease in India. *Nasya*, which has been explained as a treatment that directly acts on *shiras* with the help of *shringataka marma* was hypothesized to stimulate the proper functioning of the glands and promotes new bone resorption.

AIMS AND OBJECTIVES:

1. Study the *Asthikshaya* and Osteoporosis in Ayurvedic and modern perspective.
2. Study the management of *Asthikshaya* in light of Ayurveda.
3. Study the Action of *Nasya* in *Asthikshaya*

MATERIALS AND METHOD

The concept of *Asthikshaya* is studied from various Ayurvedic *Samhitas* while the concept Osteoporosis is studied from modern books, by searching various databases like PubMed, google scholar and other research articles.

Asthikshaya:

The word *asthikshaya* is derived from two words *Asthi and Kshaya*. “*Asyate kshipyateyat; Asyateitiasthi; mamsabhyantarasthahsharirasthasaptadhatwantargata dhatu visheshah*”³. That which is present in its own state for a long time is called *Asthi*. The definition of *Kshaya* is *Kshiyateanenaiti Kshaya; Kriya Kshaya Karatwattukshayaityuchyate Budhaihi; Kshaya Vyadhi Visheshaha*. That which decreases is called *Kshaya or kriya* which causes the decrease either qualitative or quantitative is termed as *kshaya*

and it is a *Vyadhivishesha*. Hence the combined meaning of *Asthikshaya* is decrease in bone tissue.

Asthi Dhatu Guna and Karma: *Asthi* is a *Pitruja Avayava* (paternal tissue). *Guru* (heavy), *Khara* (rough) *Kathina* (hard), *Sthula* (bulkiness), *Sthira* (stable) are the *Gunas* of *Asthi Dhatu*. Its function is *Dehadharana* (supports the body and gives perfect shape to the body), *Majjapushti* (acts as reservoir of *Majjadhatu*) and it is the seat of *vata*⁴.

Nidana

The classical texts do not provide a separate explanation of the *Asthikshaya* etiological factors. The *vidhi* and *kshaya* of *Asthi* and *Vata* are inversely proportional to one another based on the *Ashraya-ashrayee bhava* principle⁵. Therefore, the *Asthi Dhatu* will decrease as a result of the *Vata*-aggravating factors. Excessive exercise, dry vegetable consumption, irregular eating patterns, excessive fasting, dieting, and limited food intake, as well as an excess of worry, grief, and fear, as well as *Dosha, Dhatu Mala*, and time factors (*Adanakala* and *Vridhavashta*), all provoke *vata*. *Asthikshaya* is also the fault of *Majjavahasrotasa*. *Margavodha* causes the vitiating elements of *Majjavahasrotas*, such as *utpeskha, Abhishyandi*, and *virudhhaahara*, to vitiate *vata*. Vitiating of *Asthivaha Srotas* directly leads to aggravation of *Vata*, resulting in *Asthikshaya*.

Poorvaroopa: Specific *Poorvaroopa* have not been mentioned for *Asthigatavata* in classics. Hence the *Poorvaroopa* of *Vata Vyadhi* can be considered which is told as *Avyakta Lakshana*. Thus, the unmanifested symptoms of particular *Vata Vyadhi* should be considered as *Poorvaroopa*. Pain in bone and joints, hair fall, *Bala Kshaya* etc which can be the prodromal symptoms.

Roopa:

- *Asthiparvanambheda*- Breaking pain over bony joints like interphalangeal joints, wrist joints, cervical joints, lumbar and sacral joints.
- *Sandhisoola*- Joint pain
- *Mamsakshaya*- Muscle wasting
- *Balakshaya* - Loss of strength
- *Asthibhaghna* - Fracture of bones

Table no.1 Symptoms of Asthikshaya according to different Samhitas⁶⁻¹¹

Symptoms	Charaka	Susruta	Ashtanga sangraha	Ashtanga hrudaya	Bhavaprakasha	Haritha samhita
Kesha vikara	+	-	+	+	-	-
Loma vikara	+	-	+	+	-	-
Rukshata	-	+	+	-	+	-
Parushya	-	-	+	-	-	-
Asthi Baddha Mamsabhilasha	-	-	+	-	-	-
Angabhanga	-	-	-	-	-	+
Atimandacheshta	-	-	-	-	-	+
Medakshaya	+	-	-	-	-	+
Viryasyamandya	-	-	-	-	-	+
Vikampana	-	-	-	-	-	+
Vamana	-	-	-	-	-	+
Visangnata	-	-	-	-	-	+
Shosha	-	-	-	-	-	+
Kathorata	-	-	-	-	-	+
Shopha	-	-	-	-	-	+
Ruja	-	-	-	-	-	+
Sandhishaiithilya	+	-	+	-	-	-
Nakhavikara	+	+	+	+	+	-
Smashruvikara	+	-	-	+	-	-
Dantavikara	+	+	+	+	+	-
Shrama	+	-	-	-	-	-
Asthi Toda	-	-	+	+	-	-

Samprapti : Samprapti of Asthikshaya is not explained in Ayurvedic texts. The vitiation of Vata is the main factor in Samprapti of Asthikshaya. Vitiation of Vata occurs by two ways; Dhatukshaya and Margarodha. Therefore, the Samprapti can be explained by two ways, one is Dhatukshayajanya, and another is Margavarodhajanya.

Vatavrudhikara Nidanas

or

Asthivaha Srotodushti Nidanas



Dhatukshayakara Nidanas
(Vardhakya etc.)



Margarodhajanya Nidanas
(Sthoulya, Ama)



Vata Prakopa

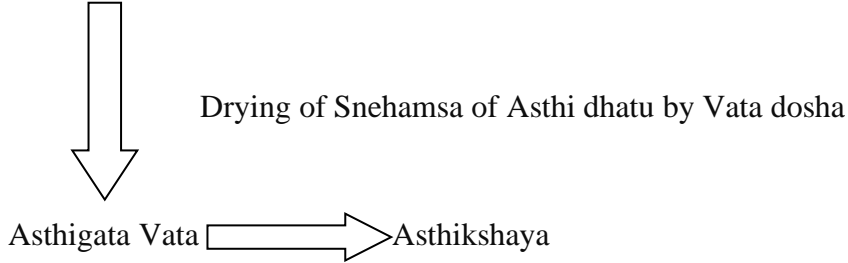


Margarana of Vata by
Pravruddha Medas / Ama



Vata prakopa in Asthi Dhatu

Vitiated Vata occupies Rikta Srotas of
Asthidhatu leading to Stanasamsraya in Asthi



Upadravas: In *Asthigata Vata*, *Asthikshaya* is the net result which finally leads to *Asthi Bhagna*. This can be correlated to fractures, vertebral compression etc seen as consequence of long-standing osteoporosis.

Chikitsa :

Acharya Susruta explained the principle of *Asthikshaya Chikitsas* “*Tatra Swayonivardhanadrayaprayoga Pratikara*”¹².

Acharya Charaka has given a similar line of treatment for which includes *panchakarma*, *Bheshaja* and *Tiktadravya*, *Ksheera* and *Sarpi Prayoga*¹³.

Nasya karma

Nasya is a *Panchakarma* treatment for body cleansing used in Ayurvedic medicine. “*Oushdhamoushadhasidhasnehanamvanasikayaamdeeyate inti nasyam*”. It means, procedure where the medicated drugs or oils are administered through the nostrils.

Mode of action of Nasya

The medicines instilled into the nose move through the micro channels and reach the vital point ‘*shringatakarma*’ and then spread throughout the head, eyes, ears, throat etc. Thus, it cures the diseases of head and neck by removing the accumulation of the *dosha*¹⁴. In anatomical perspective, ‘*shringatakarma*’ is considered as the middle cephalic fossa. It includes nerves, paranasal sinuses and meningeal vessels. The nasal cavity directly opens into the paranasal sinuses. The drug administered through the nose reaches the paranasal sinuses having abundant blood supply. It may stimulate the nerves and a portion might get absorbed into the blood supply and reaches the brain.

Nasya in Asthikshaya: Bones are an important location of *Vata* and the aggravation of *Vata* causes *Asthikshaya*. *Nasa* is considered as one among the *Pancha Gnanendria*. Its function is not only limited to olfaction & respiration, but also considered as pathway for drug administration. It is described as gate way to *Shiras*¹⁵. As per *Susrutha*, *Shringataka Marma* is *Sira Marma*, present in middle of union of *Siras*, Hypothalamus is situated there. Growth Hormone is a peptide hormone secreted from Pituitary Gland, under the control of Hypothalamus. It plays a significant role in bone metabolism. Growth Hormone stimulates osteoblast proliferation & activity, promoting bone resorption. The result is an increase in overall rate of bone remodeling and increase Bone Mineral Density rate. “*Tatragandhavatiprithwi*.” *Asthi* is *PrithwiMahabhutapredominant*¹⁶, *Gandha* is the *Guna* of *Prithwi*. *Nasa* is the *Adhishtana* for *Gandha Guna*, for nourishing *Parthiva Guna*; *Nasa* is the best route for administration of drug.

DISCUSSION

In *Asthigata Vata*, *Samprapti* of *Vatavyadhi* is to be considered. Due to *Vatala Nidan*, there occurs *Kapha Kshaya*, and the binding force is lost, and bones become brittle leading to *Asthigata Vata* and consequently *Asthikshaya*. Vitiating of *Vata* and *Asthi*, *Majja Dhatu* are the main factors in *Samprapti* of *Asthikshaya*. The *Samprapti* may follow two patterns, one is *Margarodha*, and another is *Dhatukshaya*. In old age as there is predominance of *Vata Dosha* and decrease in *Dhatu*, the disease occurs due to *Dhatukshayajanya Samprapti*. When the disease occurs in obese people, in middle aged people who are taking calcium rich diet, nutritious diet, it follows

Margavarodhajanya Samprapti. The treatment modalities mentioned here is *Nasya*. *Nasa* is the gateway to the *shiras*, *nasyaoushadhi* reaches to brain via nasal route and acts on higher centers of brain. Growth hormones are peptide hormones that stimulate growth, cell production and cell regeneration. GH secreted by anterior lobe of the pituitary gland. It stimulates the growth of essentially all tissues of the body, including bone. Hypothalamus controls growth hormones and stimulates osteoblast proliferation and new bone formation.

CONCLUSION

The factors responsible for vitiation of *Vata*, factors vitiating *Asthivaha*, & *Majjavaha Srotas* are considered as the causative factors for *Asthikshaya*. *Samprapti* of *Asthikshaya* occurs in two ways i.e. *Dhatukshayajanya* and *Margavarodhajanya*. This is a silent disease as it is usually diagnosed when a fracture occurs, it becomes too late to intervene. *Nasyaoushadhi* reaches the brain via nasal route and acts on higher centers of brain. *Nasya* is having significant role in hypothalamus, so it helps in resorption of new bone cells.

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