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**TITLE**

**STUDY THE AETIOPATHOGENESIS OF *ASTHIKSHAYA***

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**STUDY THE AETIOPATHOGENESIS OF ASTHIKSHAYA****RASHMI PANDEY<sup>1</sup>, ANAND B .MORE<sup>2</sup>, NANDINI A. MORE<sup>3</sup>****<sup>1</sup>P.G.SCHOLAR, <sup>2</sup>PROFESSOR, <sup>3</sup>ASSOCIATE PROFESSOR, BHARATI VIDYAPEETH DEEMED UNIVERSITY, COLLEGE OF AYURVED, DHANAKAWADI, PUNE, MAHARASHTRA, INDIA.****ABSTRACT:**

*Asthi kshaya is a degenerative disorder that Ayurveda has mentioned, where there is kshaya of Asthi dhatu. According to ashrayashrayi bhav asthi is the seat for vata and asthi and vata are inversely proportional to each other. Increase of vata leads to decrease of asthi dhatu. and vice versa. Since a major population is suffering from Asthi kshaya due to lifestyle modification and improper eating habits, the study is planned to know the Etiological factors and the Pathogenesis involved in Asthi kshaya and various diseases related to Asthi kshaya. It is based observational study, review of Asthi kshaya is done in all samhita. Patients has been examined with asthavidha pariksha. RESULT -Maximum volunteers were females who were having katu tikta kashaya rasatmak ahar, akaal bhojan as aharaj hetu, Ratrijagran as viharaj Hetu, Chinta Shoka and Bhaya as Manas Hetu. Due to sevan of these hetu vitiation of vata takes place causing Asthi kshaya by ashrayaashrayi bhav sambandh. Volunteers were suffering from Manya shool and sandhigata vata followed by katishool and katimanya shool . All these diseases have Asthi as Ashraya sthan so hetu sevan leads to vata prakopa which will further lead to asthi kshaya. Conclusion-Vata pitta prakruti is predominant. Vata dosha is predominant in asthi kshaya. Mainly Annavaha ,asthivaha and strotas dushti is seen in asthi kshaya. Vata prakopak aharaj , viharaj and manas hetu sevan for long duration of time leads to Asthi kshaya.*

**KEYWORDS:** *Asthi, Asthi kshaya, Dhatu, Hetu ,Vata*

## INTRODUCTION

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“*Dosha Dhatu Mala Mulam Hi Shariram*”.<sup>1</sup> Ayurveda explains human body as an affable balanced state of *dosha*, *dhatu* and *mala*. This point can be fortified by the definition of the *swastha purusha* from *Sushrut . Acharya Shrut* defines *Swastha* as equilibrium of *dosha*, *agni*, *dhatu*, *mala kriya* and *prasannata* of *atma*, *indriya* and *mana*.<sup>2</sup> As *Ashtanga samgraha* says *Shareeram dharayenthe dhatvaharashcha sarvada*<sup>3</sup> means the supporting of the human body is done by *dhatu* and *ahara*. Among the *sapta dhatu* the *ashti dhatu* is the one which is concentered with the function of *shareera dharana*. *Asthi dhatu* is the *dhatu* which gives a profile to the body and protects the vital organs. Thus a state of symmetry of *dhatu* is health and the commotion of the same is termed as disease. This *vaisamyam* or the commotion can be broadly classified in to two types, *vridhhi* and *kshaya*<sup>4</sup>. *Asthi* is the seat of *vata* and they share a reciprocal

relationship according to *ashrayaashryibhav sambandh*.<sup>5</sup> The *lakshanas* of *Asthi kshaya* is *Asthitoda*, *shrama*, *dant prapatam*, *kesha*, *nakhaprapatam* and *sadan*.<sup>6</sup> Due to change food habit and lifestyle modification *asthi kshaya* has become very common so present study is planned to know the etiological factors responsible for *asthi kshaya* and the pathogenesis involved and to see the various diseases related to *Asthi kshaya*.

## AIM AND OBJECTIVE

- Study the etiological factors of *Asthi kshaya*.
- Study the pathogenesis of *Asthi kshaya* and its relation to various diseases.

## MATERIAL AND METHODOLOGY

The present Study has been done on 60 volunteers'. The study was a survey based observational study. Literature such as various research papers, journals and different text of modern science was referred. Separate case paper Performa and questionnaires was prepared as per need. Patients were examined thoroughly with *Asthavidha pariksha* to diagnose *Asthi kshaya*. Selection of patient was done irrespective of sex, socio-economical status. Patient aging from 18 to 60 years was included.

## OBSERVATIONS

Table no.1. Division of volunteers according to *Prakruti* :

<i>Prakruti</i>	No. of Volunteers	Percentage
<i>Vata-Pitta</i>	36	60%
<i>Vata-Kapha</i>	12	20 %
<i>Pitta-Kapha</i>	0	0%
<i>Pitta-Vata</i>	12	20 %
<i>Kapha-Pitta</i>	0	0 %

60% of the volunteers had *vata pitta prakruti* followed by *pitta vata prakruti* as *vata* being predominant *vata* and *vata kapha* both being 20%. *pradhan vyadhi* occurs in this type of

Table no.2.Division of Volunteers according to *Atirasa sevan.*

<i>Rasa</i>	No. of Volunteers	Percentage
<i>Madhura</i>	18	30%
<i>Amla</i>	8	13%
<i>Lavan</i>	15	25%
<i>Katu</i>	36	58%
<i>Tikta</i>	24	41%
<i>Kashaya</i>	36	59%

Maximum volunteers had consumed *Katu* and *tikta* *rasa* i.e 41% which causes *Vata* i.e 58% followed by *Kashaya* *rasa* i.e 59% *vridhi* leading to *Asthikshaya*.

Table no.3.Division of Volunteers according to *Ahara Vidhi.*:

<i>Ahar Vidhi</i>	No. of Volunteers	Percentage
<i>Akaal Bhojan</i>	12	20%
<i>Adhyashan</i>	24	40%
<i>Vishamashan</i>	36	60%
<i>Asatmya Bhojan</i>	24	40%
<i>Upawasa</i>	48	78%
<i>Vyasan</i>	36	60%

According to observations *Upawas* was may cause *vata vridhi* showing symptoms (78%) , *visham ashan*(60%) of *asthikshaya*. *adhyashan*(40%) and 60%*vyasan* which

Table no. 4.Division of Volunteers according to *Viharaj Hetu.*

<i>Viharaj Hetu</i>	No. of Volunteers	Percentage
<i>Diwaswap</i>	10	16%
<i>Ratri Jagran</i>	45	74%
<i>Vegavidharan</i>	17	28%
<i>Atishrama</i>	38	63%
<i>Pravas</i>	36	60%

According to observations 74% volunteers which may leads to vitiation of *vata dosha* had *Ratrijagrana* as *viharaj hetu* followed which manifests into *asthikshaya* by *Atishrama*(63%) and *pravas*(60%) symptoms.

**Table no 5.Division of Volunteers according to *Manas Hetu*.**

<i>Manas Hetu</i>	No. of Volunteers	Percentage
<i>Chinta</i>	38	63%
<i>Shoka</i>	32	53%
<i>Bhaya</i>	28	46%
<i>Krodha</i>	6	10%

According to observations, 63% volunteers had a *chinta* and 53% *shoka* and 46% *bhaya* observed as a *manas hetu*.

**Table no.6.Division of volunteers according to *lakshana***

<i>Lakshana</i>	No. of Volunteers	Percentage
<i>Asthi toda</i>	52	86%
<i>Sadan</i>	47	78%
<i>Dantprapatan</i>	7	12%
<i>Nakhaprapatam</i>	37	63%
<i>Keshaprapatam</i>	48	78%
<i>Shrama</i>	39	64%

According to observations maximum volunteers had *Asthi toda* in 86% , *Sadan* in 78% and *Keshaprapatam* in 78% and these were the major *lakshana* seen in volunteers

**Table no.7.Division of volunteers according to *srotodushti***

<i>Srotodushti</i>	No. of Volunteers	Percentage
<i>Asthi vaha</i>	60	100%
<i>Majja vaha</i>	60	100%
<i>Anna vaha</i>	60	100%

In 100% volunteers had *Annavaha*, *Asthivaha* and *Majjaavaha srotas dushti*.

**Table no.8. Division of volunteers according to types of *vyadhi*.**

<i>Vyadhi</i>	No. of Volunteers	Percentage
<i>Kati shool</i>	14	24%
<i>Manya shool</i>	19	32%
<i>Kati manya shool</i>	10	16%
<i>Sandhi gata vata</i>	17	28%

According to observations maximum volunteers were suffering from *manya shool*(32%) followed by *sandhigata vata*

(28%) were the major diseases observed in volunteers of *Asthikshaya*.

## DISCUSSION

### 1. *PRAKRUTI*

Maximum volunteers were of *vata pitta prakruti* that is 60% followed by 20% *vata kapha* and 20% *Pitta Vata*. As *vata* being predominant *vata pradhan vyadhi* occurs in this type of *prakriti* followed by *pitta vata prakruti* and *vata kapha*

### 2. *ATIRASA SEVAN*

Among 60 patients (58%) patients had consumed *Katu* and *Kashaya rasa* and (41%) patients has *tikta rasa*. As *madhur rasa* is inevitable rasa in everyone's life but in my study patients had consumed excess amount of *katu, tikta, kashaya rasa*. The Pancha bhoutika composition of *Vata dosha* is very much similar to that of the *panchabhoutika* composition of the *Katu, tikta* and *kashaya rasa pradhana dravya*. Due to consumption of this rasa, there is *vata prakopa* and ultimately leads to *asthikshaya*.

### 2. *AHAR VIDHI*

Maximum volunteers had *vishamashan* (60%), *adhyashan*(40%) and *akaal bhojan*(20%). Due to above hetu sevan there is less formation of *asthi poshakansha*. The requirement of *dhatu* cannot be fulfilled by such less amount

of *poshakansha*. So there is improper nourishment of *dhatu* which leads to *dhatukshaya*.

### 4. *VIHARAJ HETU*

According to observations maximum volunteers did *ratrijagran* (74%) followed by *atishrama* (63%) followed by *pravasa*(60%) Excessive indulgence in *vyayama, adhyayana, pradhavan, plavana* and *pratarana* leads to *vrddhi* in the *chala guna* of the *vata dosha*. This *gunataha vriddhi* of *vata dosha* leads to *asthi kshaya* because of *ashrayahshrayi bhava*. The indulgence in *Ratrijagran* will cause vitiation of *vata* because of increased *ruksha guna* of *vata dosha* leading to *Asthikshaya*. *Vyasan* like tobacco chewing and alcoholism also causes vitiation of *vata* showing *asthikshaya lakshanas*.

### 5. *MANASIK HETU*

The *manasik nidana* like *chinta* 63%, *shoka* 53%, and *bhaya* 46% was found in my study. These psychological factors have direct effect on *agni* due to *vata prakopa*. *Agni* becomes *visham* causing *apakwa ahar ras nirmiti* causes undernourishment of *dhatu* which further leads to *asthikshaya*.



**6. LAKSHANA**

In 60 patients 86% volunteers has *Asthitoda* as *pradhan lakshana* and 78% volunteers had *sadan* as *lakshana* followed by *keshaprapatam* 78%, *nakhaprapatam* 63% and *dantaprapatam* 12%. In *dhatuposhan krama dhatwagni* of related *dhatu* act upon *ahar rasa* and out of which there is *sara bhag* and *kitta bhag*. The *Sara bhag* gives nourishment to *dhatu* and while *kitta bhag* will nourish the *mala* of *dhatu* so *dant* being *upadhatu* of *asthi* and *nakha* and *kesha* the *mala* of *asthi* is undernourished due to undernourishment of *asthidhatu*. Other symptoms like *balakshaya*, *shrama*, *rukshata* were also seen since all these are caused due to increase in *vata dosha*.

**7. SROTAS**

According to observation, the volunteers had *Annavaha Asthivaha*, *Majjavaha* and *srotas dushti*. i.e 100%. Due to *Hetu sevan* first *agnidushti* takes place which produces improper *rasa dhatu* which causes further causes undernourishment of *asthi dhatu* leading to *asthikshaya*. *Hetu sevan* causes *dushti* of *asthivaha srotas* showing *lakshana* of *Asthikshaya*. The most symptoms observed in study are related to *asthi*, *kesha*, *danta* and *sandhi*. Therefore *asthivaha srotasa* is affected. As *Asthi*

and *Sandhi* are the *moolasthan* of *Majjavaha Srotas* and we observed pain in various joints therefore *Majjavaha srotas* is also involved.

**8. VYADHI**

Majority of the volunteers were suffering from *Manya shool* 32% and *sandhigata vata* 28% followed by *katishool* 24% and *katimanya shool* 16%. All these diseases have *Asthi* as *Ashraya sthan* so *hetu sevan* leads to *vata vriddhi*. This vitiated *vata* circulates in body. *asthi dhatu* is *sthan* of *vayu* and *vayu* and *asthi* are inversely proportional to each other. Increase in *vata* will lead to decrease in *asthi dhatu* due to *ashrayaashrayi bhav sambandh*. This *prakupit vata* may cause depletion of *asthi dhatu*. Manifestation of various *vata vyadhi* will take place.

**9. PATHOGENESIS OF**

**ASTHIKSHAYA** -Due to the *hetu sevan* mainly *Aharaj (katu, tikta, Kashaya rasatmak, akaal bhojan)*, *Viharaj (ratrijagran, vegadharan, atishrama)*, and *Manasik Hetu (chinta, bhaya, shoka)* regularly for 2 to 3 years leads to vitiation of *vata*, this vitiated *vata* lodges into *rikta srotas* where there is *kha vaigunya* and due to *ashrayashrayibhava sambandh* there is decrease in *asthidhatu* leading to *asthikshaya*.

## CONCLUSION

- *Vata Pitta Prakruti* is Predominant.
- *Vata Dosha* is Predominant.
- *Katu tikta kashaya rasatmak* and *Ruksha Gunatmak* ahar are major Aharaj hetu in Asthikshaya volunteers.
- *Ratri jagran* and *Vega dharan* are the major viharaj hetu in *Asthikshaya* volunteers.
- Mainly *Chinta*, *Shoka* and *bhaya* are the major *manas hetu* in volunteers of Asthikshaya.
- Aharaj, Viharaj, and Manas Hetu sevan leads to vata prakop which further manifest into *Asthikshaya*.
- *Annavaha*, *Asthivaha*, and *Majjavaha* srotasa were predominantly involved.
- Asthikshaya is *chirkari* condition.
- Manifestation of *asthikshaya* was prominent after 2 years of duration of *hetu sevan*.
- Mainly *Manyashool*, *Katishool*, *Sandhigata vata* and *Kati manyashool* are seen in Asthikshaya volunteers.

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