

**ROLE OF TIKTA GHRITA KSHEER BASTI IN THE MANAGEMENT OF  
ASTHIKSHAYA W.S.R. TO OSTEOPOROSIS****Dr. Poonam Singh Chauhan<sup>1\*</sup>, Dr. Gitanjali Sasmal<sup>2</sup> and Dr. Vinay Bhardwaj<sup>3</sup>**<sup>1</sup>P.G. Scholar, Dept. of Kriya Sharira, Govt. Ayurvedic College, Raipur, Chhattisgarh, India.<sup>2</sup>Reader & Head, Dept. of Kriya Sharira, Govt. Ayurvedic College, Raipur, Chhattisgarh, India.<sup>3</sup>Lecturer, Dept. of Kriya Sharira, Govt. Ayurvedic College, Raipur, Chhattisgarh, India.**\*Corresponding Author: Dr. Poonam Singh Chauhan**

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Article Received on 19/07/2018

Article Revised on 09/08/2018

Article Accepted on 30/08/2018

**ABSTRACT**

Ayurvedic description of Asthikshaya closely resembles with osteoporosis in modern medicine. Vata is mainly present in Asthi & Pakvashaya. Basti is the primary treatment of Vata Dosha and is known as Ardachikitsa in Ayurveda.<sup>[1]</sup> Dugdha & Ghrita both are Vata Shamaka & also provide Snigdghata (nourishment) in Asthidhatu.<sup>[2]</sup> Due to Sukshma Guna of Ghrita the Sneha Basti Dravya reaches to Asthi Dhatu, produces Kharta & prevents Asthikshaya. Tikta Rasa is mainly Aakash & Vayu mahabhuta pradhan dravya.<sup>[3]</sup> It increases the Shoshana & Khara guna of Asthi dhatu. This combination has ability to produce Kharatwa. Hence it can be concluded that Tikta Ghrita Ksheer Basti has ability to repair degeneration of bones & cartilages.

**KEYWORDS:** Asthi Dhatu, Asthikshaya, Basti, Osteoporosis.**INTRODUCTION**

Asthidhatu is the fifth Dhatu among seven Dhatus described in Ayurveda. It has the first most importance in the life because Asthi Dhatu is essential for supporting the body i.e. Dharan as well as Poshana. Its functions are mainly Dehdharan, Majjapushti and Ashraya of Vata Dosha.<sup>[4]</sup> The Asthi Dhatu being made primary of the element Vata. Its Panchbhautika Sangathana according to Acharya Charaka is Pruthvi, Agni & Vayu.<sup>[5]</sup> Its properties like Ruksha (rough), Laghu (light), Sheetal (cold), Sukshma (subtel), Chala (mobile), Khara (nonslimy), Kathina (hard) are very similar to Vata.<sup>[6]</sup> According to Acharya Charaka in Dhatu Utpattinyaya Ashtidhatu is formed from Medodhatu. Dhatus are seven in number i.e. Rasa, Rakta, Maamsa, Meda, Asthi, Majja and Sukra. Sapta Dhatus gets Preenanam from Aahara rasa. Aahara rasa is the end product of Jatharagni paka. Seven categories of Dhatwagnis (Rasagni, Raktagni, Mamsagni, Medogni, Asthyagni, Majjagni, Sukragni) & Sapta Dhatu undergo Paka in two different ways for the sustainers of the body. One is Prasada Paka & other is the Kittapaka. The Prasada Paka is stated to yield the seven kinds of Poshaka or Asthaya Dhatus. Kitta Paka is the waste products. The Poshaka Rasa Dhatu is transformed into Rakta Dhatu by the heat generated by Ranjaka Pitta & Rasagni in the body. The Poshaka Rakta Dhatu is transformed into Mamsa Dhatu by the Vayu, Agni, Jala mahabhut & heat generated by Raktagni in the body. The Poshaka Mamsa Dhatu is transformed into Medas Dhatu by the Prithvi, Jala, Tejas, & heat generated by Raktagni in the body. The Poshaka Medas

Dhatu is transformed into Asthi Dhatu by the Prithvi, Vayu & Medas Agni. The Poshaka Asthi Dhatu is transformed into Majja Dhatu by the Prithvi, Jala, Vayu & Asthyaagni. The Poshak Majja Dhatu is transformed into Sukra Dhatu. The time period of Prasada paka is six days & nights. This process is a continuous one like a moving wheel. Each one of the seven kinds of Poshaka or Asthaya Dhatu is stated to be transported, as it is formed to the respective Poshya (Sthaya) Dhatus, through Srotas (Channels), specific to each such Sthaya Dhatu for being built up as part of the latter. These Srotas are known as Dhatuvaha Srotamsi. These Srotas are seven in number Rasavaha Srotas, Raktavaha Srotas, Mamsavaha Srotas, Medovaha Srotas, Asthivaha Srotas, Majjavah Srotas, & Sukravaha Srotas. The nutrient fraction of Rasa, Rakta, Mamsa, Medo Dhatu help in formation of Updhatu.<sup>[7,8]</sup>

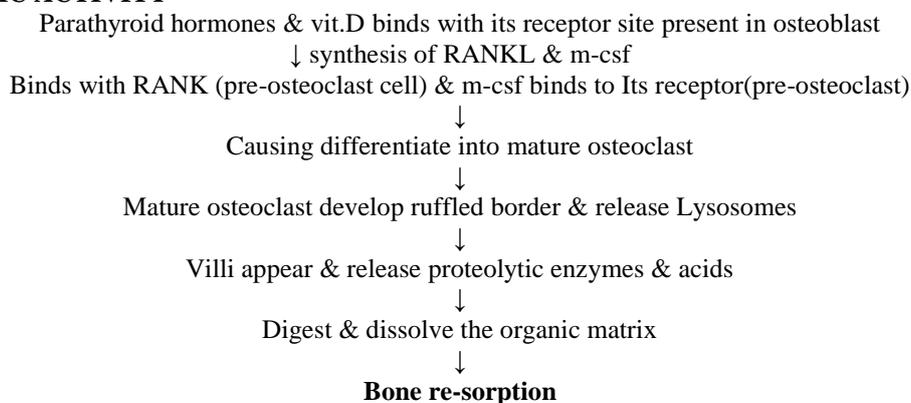
The bone tissue is kept in dynamic equilibrium by means of remodeling. Bone remodeling includes two process.<sup>[9]</sup>

**Osteoclastic Activity:** Osteoclast is a type of bone cell that breaks down bone tissue. This function is critical in the maintenance repair & remodeling of bones of the vertebral skeleton. The osteoclast disassembles & digests the composite of hydrated protein & mineral at a molecular level by secreting acid & a collagenase by a process known as bone resorption. This process also helps regulate the level of blood calcium.

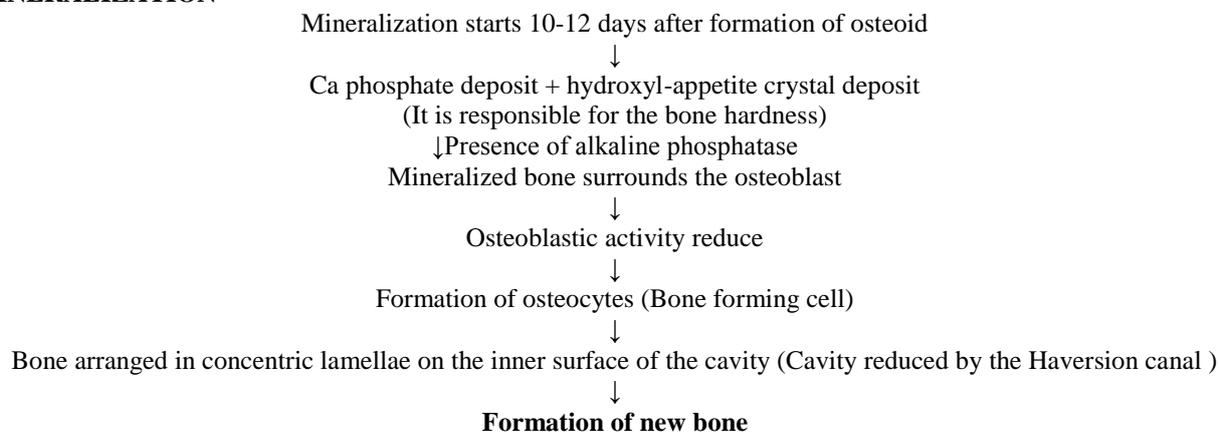
**Osteoblastic Activity:** Osteoblasts are the kind of bone cells responsible for the bone formation. It is also responsible for the mineralization of the bone structure. After the bone reabsorption the shallow cavity is formed in the bone re-absorbing department. Osteoblast synthesis & release collagen into shallow cavity. The collagen fibers arrange themselves in regular units & form the organic matrix called osteoid.<sup>[11]</sup>

If osteoclastic activity is increased bone re-sorption will also increase. The activation of RANKAL which is also present in osteoblast cells is required for pre-osteoclast differentiation into mature osteoclast. Parathyroid hormones decrease the production of osteoprotegerin(OPG) which inhibits the differentiation of pre-osteoclasts into mature osteoclast by binding to RANKL and preventing it from interacting with its receptor on pre-osteoclasts. Its action is to prevent increased osteoclastic activity or bone re-sorption.<sup>[17]</sup>

### OSTEOCLASTIC ACTIVITY



### MINERALIZATION



Asthikshaya is the condition in which there is Kshaya of Asthi Dhatu According to the principle of Ashryaashrayee bhava, the main site of Vata is Asthi. When Vata increases Asthi Dhatu will be decreased. Hence the etiological factors of Vata Vriddhi are the etiological factor of Asthi Dhatu Kshaya. Kshaya means loss, decay. Dalhan has aptly defined Kshaya as mean “ Swapramanaani.<sup>[10]</sup>” Whereas Chakrapani Dutta describes it as “ Swakriya-naashnaat’’.<sup>[11]</sup> Basti is the best known treatment modality used for vitiated Vata Dosha. Pakvashaya is the place of Purishdhara Kala where Basti dravya reaches & it is also the main seat of Vata Dosha including Asthi. Therefore, increased or decreased Vata affects all the site of Vata especially Asthi.<sup>[10]</sup> Composition of Tikta rasa is Vayu & Aakash Mahabhuta. Tikta rasa has a unique property to maintain the Kharatwa of Asthi Dhatu. Ksheer & Ghrita has predominantly Pruthvi, Jala Mahabhuta & Madhur rasa.

These properties will nourish the Asthi Dhatu as well as Vata Samana.<sup>[12]</sup> Asthikshaya may be compared with oostoporosis in modern era “Osteoporosis is defined as a reduction in the strength of bone that leads to an increased risk of fractures’’.<sup>[12]</sup>

WHO defines low bone mass on the basis of T score i.e. Standard deviation(SD).

T score is less than 2.5 SD.

0.0 – (-1.00)SD - Normal

(-1.00) – (-2.5)SD - Osteopenia

< (-2.5) SD - Osteoporosis

BMD beyond - 2.5 SD with one or more fragility fracture – Severe Osteoporosis.<sup>[13]</sup>

**DISCUSSION**

**Samanya Vishesh Siddhanta:** The general (similar) is the cause of the increase of all things at all times and the particular is the cause of the decrease.<sup>[14,15]</sup>

**According to Acharya Charaka & Vagbhata:** The treatment of Asthikshaya is Basti karma containing Ksheer, Ghrita & Tikta rasa should be given.<sup>[16,17]</sup>

**BASTI:** Basti is the primary treatment of Vata Dosha described as Ardachikitsa in Ayurveda (Charak). Pakvashaya is the place of Purishdhara kala, also considered as Asthidhara kala, so it nourish Asthi also.

**KSHEER:** Ksheer is mainly Madhur- rasa, Guna- Snigdha, Virya- sheetal, karma – Vrihan, Vrishya, Medhya, Balvardhak, Jivniya Shakti vardhak, Bhagna Sandhankar. It is also used in ksheena & kshaya patient.

**GHRITA:** Madhur rasa, Sheet Virya, Snigdha Guna, Vatta-Pitta shamak. Karma -Vata-Pitta shamaka.

**TIKTA RASA** – It is mainly Vayu+Akash Mahabhuta pradhan dravya. Its mainly increased the Shoshana Guna of Asthidhatu which is also increased the khara guna.

**TIKTA RASA**

↓ Akash+Vayu  
Shoshana

**BASTI**

↓  
Vata Samana Snigdha (Vatasamana + nourish Asthidhatu)

**KSHEER & GHRITA**

↓



Above properties are beneficial to increase Khara property of Asthi dhatu.



**Asthidhatu Vriddhi<sup>[18,19]</sup>**

**According to Acharya Arundutta**

The Tikta rasa in mainly Vayu & Akash mahabhuta pradhan dravya. Its property is mainly to increase the Shoshana Guna of Asthi Dhatu. Dugdha & Ghrita are mainly Snigdha dravya, this property will decrease the Shoshan Guna of Tikta rasa. Due to Sukshma guna of Ghrita the Sneha Basti dravya reaches to Asthidhatu produce Kharta & prevent Asthikshaya.<sup>[18,19]</sup>

**CONCLUSION**

Ayurveda gives a preventive measures which serve our life healthy & management that grants constructive safe & sound outcome. On the basis of Ayurvedic therapeutic principles of Asthikshaya, Tikta Ghrita Ksheer Basti has significant effect on Asthikshaya.

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