



## **A REVIEW ARTICLE ON EFFICACY OF *ASTHISHRINKALA GHRIT MATRA BASTI* IN THE MANAGEMENT OF *ASTHI-MAJJA KSHAYA* W.S.R. TO OSTEOPOROSIS**

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### **ABSTRACT**

OSTEOPOROSIS- is a complaint of the cadaverous system that's characterized by deterioration of bone tissue, along with a drop in bone strength and — to a lower degree — bones density. The term osteoporosis describes a condition inside the bones in which large porous areas develop substantially in bone, weakening the bone structure. Osteoporosis in Ayurveda is known as *Asthi- Majjakshaya*. *Asthi- Majjakshaya* isn't actually named as a separate complaint reality, but rather as one of several consequences which can crop as a result of *Dhatu-Kshaya*. It has been reported that 61 million people in India have osteoporosis and, out of these, 80 percent are women. The peak incidence of osteoporosis in India occurs 10–20 years earlier than in Western countries, which impinges harshly on the health and economic resources. Conventional medications are often effective for symptomatic relief only. However this provides much scope to Ayurveda, which aims at treatment as well as disease prevention. It can be considered as a disease characterized by localization of vitiated *Vata in Asthi Dhatu* i.e.; '*Asthigata Vata*' resulting in *Asthi Kshaya*. *Vata Kopa* and *Asthikshaya* can result in osteoporosis. Condition can be managed in Ayurveda adopting *Asthigata Vata Chikitsa*, *Asthikshaya chikitsa*, *Bhagna chikitsa* and usage of drugs with *Brimhana*, *Rasayana* and *Vata Hara* property. As in *Asthipradoshaja Vikara Chikitsa* indication of *Panchakarma*, especially *Vasthis* with *Ksheera* and *Ghrta* processed with *Tikta dravyas* are given and we have used *Asthishrinkhala Ghrta Matra Vasti* in our study.

**Keywords-** *Asthigata Vata Chikitsa, Asthi Kshaya, Asthishrinkhala Ghrta Matra Vasti, Asthi- Majjakshaya*

## INTRODUCTION

OSTEOPOROSIS- is a complaint of the cadaverous system that's characterized by deterioration of bone tissue, along with a drop in bone strength and — to a lower degree — bones density. The term osteoporosis describes a condition inside the bones in which large pervious areas develop substantially in bone, weakening the bone structure. As the ***Astanga Samgraha*** “*Shareeram Dharayenthe Dhatvaharashchasarvada* ” meaning the support of the mortal body is fulfilled by entirely *Dhatu* and *Ahara*. Among the *Saptadhatus*, the *Ashtidhatu* is the one which is bestowed with the supreme function of *Shareeradharana* . *Asthidhatu* confers structure to the body and protects the vital organs. *Asthidhatu* is substantially by which humankind stands upright and noble. Any disharmony in the equilibrium of the *Doshas* and *Dhatus* leads to complaint. Osteoporosis in Ayurveda is known as *Asthi- Majjakshaya*. *Asthi- Majjakshaya* isn't actually named as a separate complaint reality, but rather as one of several consequences which can crop as a result of *Dhatu- Kshaya*. In addition to being the well- known source of the functionally important hemopoetic apkins, *Majjadhatu* also represents the collagen, fat and protein within the bones which give strength and unctuousness. In *Charak Samita Sutrasthanaadhy*, *Acharaya Charak* describes eighteen types of *Dhatu- Kshaya*. It's then that we first see a description which nearly resembles our ultramodern- day complaint called osteoporosis. The signs and symptoms of this condition are described as predictability, fineness and lightness of the bones, tautness of joints, hair loss from body and beard, tooth weakness, and unhealthy nails. The *Samprapti* involves *Vataprakopa* and degeneration of *Asthi- Dhatu* which denotes pining for *Brimhana* remedy especially for *Asthi*. Looking through Ayurvedic point of view, *Charak* has expressed that complaint caused due to *Asthidhatu* should be treated with *Panchakarma* remedy. He particularly emphasized on the use of *Snehabasti* and *kshirabasti* reused by medicine having *Tikta Rasa*. *Dhatukshaya* correlates itself with vitiation of *Vata* and therefore osteoporosis could be called as a *VataVyathi*. Treatment of *Vatavyadhi* in its *Niramaavastha* is advised to be *Sneha Chikitsa*. *AshtangSangraha* has advised to take *Ghrit*, *Taila*, *Vasa* or *Majja* orally in similar patients. The *Matrabasti* is one of the types of *Anuvasana Basti* which can be administered to any existent any time. It doesn't manifest any

*Vyapada*. According to Ayurvedic literature it's administered in a lowest volume without any defined authority related to food and habits. It's helpful in *Alpabala*, *Alpagni* and to cases suffering from *Vata Vyadhi*. It acts as *Balya* and has *Doshaghna* property important and emotional proposition given by Vagbhata in the textbook *Astanga Hridaya*. This is a proposition which describes the relationship between *Dosha and Dhātu*. Then it's said that, *Vata* resides in *Asthi*, in case of *Vata* and *Asthi*, if *Vata* increases, also *Asthi* decreases and vice versa. They're equally related to each other. This relationship helps in knowing both the *Hetu* and *Chikitsa* of a *Vyadhi* as aliment of *Asraya* and *Asrayi* is analogous.

It has been reported that 61 million people in India have osteoporosis and, out of these, 80 percent are women. The peak incidence of osteoporosis in India occurs 10–20 years earlier than in Western countries, which impinges harshly on the health and economic resources. Osteoporosis is an important health hazard. Exact prevalence of Osteoporosis in India is not clear in absence of regular National registry data. Expert groups peg the number of osteoporosis patients at approximately 26 million (2003 figures) with the numbers projected to increase to 36 million by 2013. In a study among Indian women aged 30-60 years from low income groups, BMD at all the skeletal sites were much lower than values reported from developed countries, with a high prevalence of osteopenia (52%) and osteoporosis (29%) thought to be due to inadequate nutrition.

Here an effort is made to study the etiopathogenesis of *Asthi-Majja kshaya* and its management according to Ayurveda.

### **Aims and Objectives:**

1. Study the *Asthi-Majja Kshaya* and Osteoporosis in Ayurvedic and modern perspective.
2. Study the management of *Asthi-Majja Kshaya* with *Asthishrinkhala Ghr̥it Matra Vasti*.

### **MATERIALS AND METHOD**

**Materials and Method** The concept of *Asthi-Majja Kshaya* and *Asthishrinkhala* 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:**

*Asthisaushirya* is another condition explained in *Majjadhatukshaya*. *Saushirya* is *Sarandhratvam* means porous bones. *Asthikshaya* is the first stage of the disease, which is mainly characterized by different kinds of pain and deformities of *Upadhatus* and *Malas of Asthi*. *Dantha*, *Nakha*, *Kesha* etc. As the disease progresses, as per the principles of *Anulomakshaya*, it will affect *Majjadhatu* and manifest as *Asthisoushirya*, so *Asthisaushirya* is increase in porosity of bones which may lead to *Bhagna* afterwards.

**Asthi Dhatu Guna and Karma:**

*Asthi* is a *Pitruja Avayava* (paternal tissue). *Guru* (heavy), *Khara* (rough) *Kathina* (hard), *Sthula* (bulkiness), *Sthira* (stable) and *Murtimandare* 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*.

**The etiological factors for Asthikshaya:**

The etiological Factors of *Asthikshaya* are not explained separately in the text. On the basis of Ayurvedic principle of *Ashrayashrayee Bhava*, The increase or decrease of *Asthi* and *Vata* are inversely proportional to each other. Hence the factors vitiating *Vata* will cause decrease in *Asthi Dhatu*. *Acharya Charak* had explained *Samanya Nidana* (general etiological factors) leading to the *Kshaya* of 18 types which includes mostly the *Vataprakopak Nidana*.

*Vatavyadhi Nidana* in general can be considered as no specific *Nidana* is mentioned for *Asthigata Vata*. The deranged *Vata* gets lodged in the *Asthi* and cause *Asthikshaya*. As *Asthidhatu* is nourished by the nutrients passing through its own channels of circulation and both *Asthi* and *Asthivaha srotas* are having the same properties, the factors causing vitiation to the *Srotas* also cause vitiation to the *Dhatu*. *Asthi* and *Majja* are closely related to each other. *Charaka* explains that there is a metabolic co-operation between the *Dhatus* “*Paraspara Upasamsthabdha Dhatu Sneha Parampara*”. Factors responsible for vitiation of *Asthivaha* and *Majjavaha Srotas* are responsible for *Asthi Kshaya*.

The *Nidanas* for *Vatavyadhi* and *Vataprakopa Karanas* can be;

1. Food (*Aharaja*)
2. Regimen (*Viharaja*)
3. Psychological (*Manasika*)
4. Trauma (*Abhighataja*)
5. Other causes (*Anyat Nidana*)

### **Aharaja**

- Intake of less nutritive food
- Lack of adequate quantity of food (*Alpabhojana*)
- Food which aggravate *Vata* (*Vatala Ahara*)

Over indulgence for long periods in foods and drinks which possess predominantly *Tikta*, *Katu* and *Kashaya Rasas* and having *Rooksha*, *Laghu* and *Sita Gunas* aggravate *Vata Dosha*, prolonged intake of *Virudha* and *Mamsala Ahara* are vitiating factors of *Majjavahasrotas* and *Medovahasrotas* respectively, which in turn influence *Asthi Dhatu*.

### **Viharaja**

- Over exercise (*Vyayama*)
- Over indulgence in sexual intercourse (*Vyavaya*)
- Awakening during night time (*Prajagara*)
- *Apathya* regimen during treatment
- Excessive blood loss from the body
- Suppression of natural urges (*Vegadharana*)

- Constant irritation to the body tissues through repetitive stress and strain by continuous journey, unnatural and uncomfortable postures during journey, walking long distances, wrestling with a person of superior strength, carrying heavy loads etc.
- Lack of exercise, obesity and sleeping during day time are the vitiating factors for *Medovaha Srotas*.

### **Manasika**

- Mental stress due to fear, grief, anger and excessive thinking.

Since *Vata* is the controller of *Manas*, any affliction to *Manas* vitiates *Vata dosha*.

### **Abhighataja**

Trauma to *Sareera* vitiates the *Vata Dosha*. Leap from great height, accidental and surgical injuries to bones and tissues are the main causes.

**Acharya Dalhana** described the *Asthidhara Kala* as *Purishdhara Kala*. So the causative factors responsible for vitiation of *Purishvaha Srotas* are also responsible for *Asthikshaya*. It includes suppression of urge for stool, consumption of large quantity of food, eating during indigestion, eating before digestion of previous meal, person having weak *Agni* and emaciation.

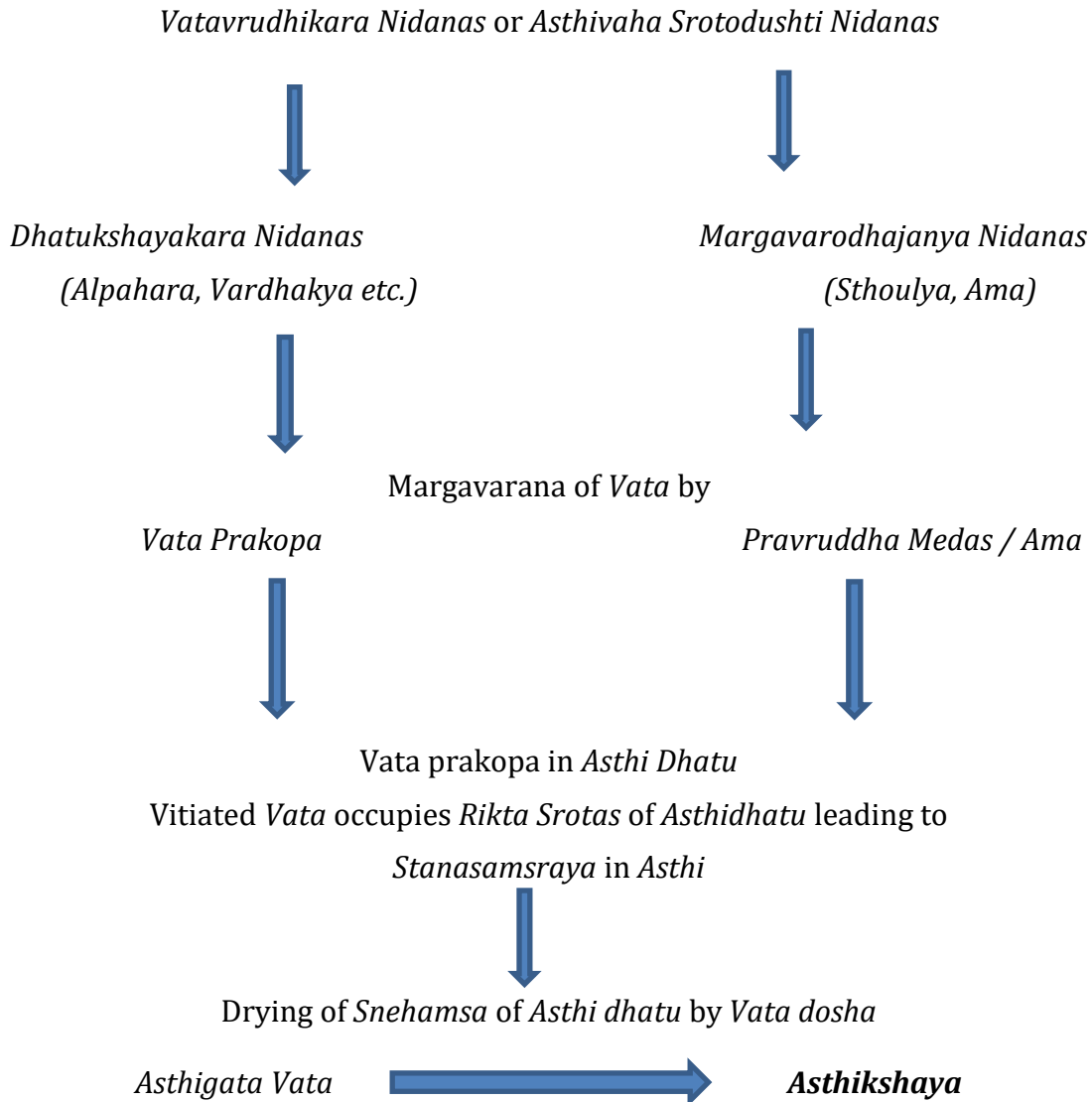
### **Samprapti:**

*Samprapti* of *Asthikshaya* is not explained in Ayurvedic texts. Vitiation of *Vata* is the main factor in *Samprapti* of *Asthikshaya*. Vitiation of *Vata* occurs by two ways; *Dhatukṣaya* and *Margarodha*. Therefore the *Samprapti* can be explained by two ways, one is *Dhatukṣhaya Janya* and another is *Margavarodhajanya*. *Apatarpan* i.e. taking *Vataprakopak Ahara* (diet) and *Vihara* (living habits) leads to vitiation of *Vata* due to decrease in *Dhatus* and the *Srotas* become *Rikta* (devoid of unctuousness). Vitiating *Vata* fills the *Rikta Srotas*. The walls of *Srotas* got stretched by the force of *Vata* leading to weaken them and vitiating *Vata* overpower the weak *Srotas* to create disease.

**Symptoms of *Asthikshaya* according to different Samhitas:**

Symptoms	Charaka	Sushruta	Ashtang Sangraha	Ashtang Hrudaya	Bhavaprakash	Harita Samhita
<i>Kesha vikara</i>	+	-	+	+	-	-
<i>Loma vikara</i>	+	-	+	+	-	-
<i>Nakhavikara</i>	+	+	+	+	+	-
<i>Smashruvikara</i>	+	-	-	+	-	-
<i>Dantavikara</i>	+	+	+	+	+	-
<i>Shrama</i>	+	-	-	-	-	-
<i>Asthi Toda</i>	-	-	+	+	-	-
<i>Ruja</i>	-	-	-	-	-	+
<i>Asthi Shula</i>	-	+	-	-	+	-
<i>Sandhishaitilya</i>	+	-	+	-	-	-
<i>Rukshata</i>	-	+	+	-	+	-
<i>Parushya</i>	-	-	+	-	-	-
<i>AsthiBaddha Mamsabhilasha</i>	-	-	+	-	-	-
<i>Angabhanga</i>	-	-	-	-	-	+
<i>Atimandacheshta</i>	-	-	-	-	-	+
<i>Medakshaya</i>	+	-	-	-	-	+
<i>Viryasyamandya</i>	-	-	-	-	-	+
<i>Vikampana</i>	-	-	-	-	-	+
<i>Vamana</i>	-	-	-	-	-	+
<i>Visangnata</i>	-	-	-	-	-	+
<i>Shosha</i>	-	-	-	-	-	+
<i>Kathorata</i>	-	-	-	-	-	+
<i>Shopha</i>	-	-	-	-	-	+

### Schematic Representation of the Samprapti



### Poorvaroopa

Specific *Poorvaroopa* have not been mentioned for *Asthigata Vata* in classics. Hence the *Poorvaroopa* of *Vata Vyadhi* can be considered which is told as *Avyakta Lakshana*. Thus the un-manifested symptoms of particular *Vata Vyadhi* should be considered as *Poorvaroopa*. Observations based on present clinical trial reveals that occasional pain in bone and joints, hair fall, *Bala Kshaya* etc which are ignored by the patients can be taken as prodromal symptoms.



## Roopa

*Asthigata vata* manifests in the body with following *Lakshanas*.

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

According to *Bhela Samhita*, a wide range of diseases are produced when *Vata* get aggravated in *Asthi and Majja*. It causes fractures of bones, shivering and wasting of body, epilepsy, lock jaw, lame by hand, lame by one leg or both legs, dislocation of joints and various other *Vatik* disorders.

## Upadravas

In *Asthigatavata*, *Asthiakshaya* is the net result which finally leads to *Asthi Bhagna*. This can be correlated to the fractures, vertebral compression etc seen as consequence of long standing osteoporosis.

## Osteoporosis:

World Health Organization operationally defines Osteoporosis as a bone density that falls 2.5 standard deviations below the mean for young healthy adults of same gender, also referred to as a T-score of -2.5.

## Types of Osteoporosis

### Primary Osteoporosis

Primary osteoporosis occurs without a known cause and includes both Juvenile and Idiopathic osteoporosis. Idiopathic osteoporosis can be further subdivided into postmenopausal (type 1) and age associated or Senile (type 2) osteoporosis which is due to oestrogen deficiency and ageing respectively.

## Classification of Osteoporosis

Types of primary osteoporosis	Characteristics
Juvenile osteoporosis	<p>Occurs in children/adults of both sexes</p> <ul style="list-style-type: none"> <li>• Normal gonadal function</li> <li>• Age of onset 8-14 yrs</li> <li>• Hallmark characteristic: Abrupt bone pain/fracture</li> </ul> <p>Occurs in children/adults of both sexes</p> <ul style="list-style-type: none"> <li>• Normal gonadal function</li> <li>• Age of onset 8-14 yrs</li> <li>• Hallmark characteristic: Abrupt bone pain/fracture</li> </ul> <p>Occurs in children/adults of both sexes</p> <ul style="list-style-type: none"> <li>• Normal gonadal function</li> <li>• Age of onset 8-14 yrs</li> <li>• Hallmark characteristic: Abrupt bone pain/fracture</li> </ul> <p>Occurs in children/adults of both sexes</p> <ul style="list-style-type: none"> <li>• Normal gonadal function</li> <li>• Age of onset 8-14 yrs</li> <li>• Occurs in children/adults of both the sexes</li> <li>• Normal gonadal function</li> <li>• Age of onset 8-14yr</li> <li>• Hallmark characteristic-Abrupt bone pain/ fracture following trauma.</li> </ul>
Idiopathic osteoporosis	
Post-menopausal osteoporosis	<p>Due to estrogen deficiency.</p> <ul style="list-style-type: none"> <li>• Phase of accelerated bone loss, of trabecular bone.</li> <li>• Fractures of distal forearm and vertebral bodies common</li> </ul> <p>Due to estrogen deficiency.</p> <ul style="list-style-type: none"> <li>• Phase of accelerated bone loss, of trabecular bone.</li> <li>• Fractures of distal forearm and vertebral bodies common</li> </ul> <p>Due to estrogen deficiency.</p> <ul style="list-style-type: none"> <li>• Phase of accelerated bone loss, of trabecular bone.</li> <li>• Fractures of distal forearm and vertebral bodies common</li> </ul> <p>Due to estrogen deficiency</p> <ul style="list-style-type: none"> <li>• Phase of accelerated bone loss associated with ageing</li> <li>• Fractures of distal forearm and vertebral bodies are common.</li> </ul>
Senile osteoporosis	<ul style="list-style-type: none"> <li>• Ageing causes decrease in BMD</li> <li>• Fracture in cortical and trabecular bone</li> <li>• Represent bone loss associated with ageing.</li> <li>• Fracture of wrist, hip, vertebral are common</li> </ul>

## **Secondary Osteoporosis**

Can occur due to underlying diseases, deficiency or as drug induced.

### **Clinical Features**

As this condition is asymptomatic in initial stages, diagnosis is often too late and usually by radiography. In many cases first symptom is a broken bone. Patients with Osteoporosis may not know that they have the disease until their bones become so weak, that a sudden strain, hump or fall causes a hip fracture or a vertebra to collapse. This is recognized by clinical features like severe back pain in middle or low thoracic, lumbar region which is aggravated by sudden movement, cough, sneezing etc. There will be shortening of vertebral column (intervertebral disc herniates into vertebral bodies). Patient will be presenting with Dowager's hump/Widow's hump denoting dorsal kyphosis with exaggerated cervical lordosis. Even trivial trauma cause fractures of axial skeleton. Round type of gibbus due to compression of thoracic vertebra is commonly seen. Other features include brittle hair, cervical spine compression, loss of vertebral height and skin wrinkles.

### **Diagnostic Tests**

Assessment of Bone Mineral Density: Bone mineral density is expressed in grams per unit area and is recorded in comparison to the sex and age specific distribution of these values in the general population. BMD measures bone density in lumbar spine, femoral neck, distal radius etc. These tests are painless, non-invasive and safe. It can detect a bone density before a fracture occurs.

### **Tests**

#### **X-rays**

Decreased skeletal radio density is a late and unreliable sign of bone loss and becomes apparent only after a 30 percent reduction in mineral or skeletal mass. Radiographic changes seen in spine are-

1. Loss of vertebral height
2. Biconcave central compression (cod fish spine) due to pressure of bulging disc into the bodies.
3. Anterior wedge compression.
4. Bone density of vertebra is reduced.

### **Tests**

### **X –rays**

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- Anterior wedge compression
- Bone density of vertebrae is reduced.
- Ground glass appearance due to generalized rarefaction

### **Quantitative ultrasound**

Quantitative ultrasound is a relatively recent and non-invasive method of estimating bone mineral status at peripheral skeleton.

### **Dual Energy X-Ray Absorptiometry**

DXA is a highly accurate x-ray technique that has become standard for measuring bone density. It can be used for measurements of any skeletal site, clinical determinations are usually made of lumbar spine and hip.

### **Laboratory Investigations**

For identifying secondary cause complete blood count, Renal Function test and Liver function test are to be done. Vitamin D level to be checked and if found low it is to be corrected. Thyroid function test is done to rule out hyperthyroidism.

## **Advances in Biomarkers of Osteoporosis**

Micro RNA and long non-coding RNA are novel markers in osteoporosis.

### **Treatment**

1. Management of osteoporotic fracture
2. Management of underlying disease
3. Pharmacologic therapies
4. Non-pharmacologic approaches

• **Management of Osteoporotic Fracture** : Depending on the location and severity of the fracture, condition of the neighboring joint and general status of patient procedures include open reduction and internal fixation with pins and plates, hemiarthroplasties and total arthroplasties. In acute vertebral compression fracture recently developed technique involves percutaneous injection of polymethylmethacrylate into the vertebral body (vertebroplasty/kyphoplasty).

• **Management of the Underlying Disease**

**Risk Factor Reduction:** Reduce the impact of modifiable risk factors

### **Pharmacologic Therapies**

Currently no treatment can completely reverse established osteoporosis. Early intervention can prevent osteoporosis in most people. If secondary osteoporosis is present treatment for primary disorder should be provided.

### **Non-pharmacologic Approaches**

Protective pads worn around the outer thigh which cover the trochanteric region of hip can prevent hip fractures in elderly residents in nursing homes. Kyphoplasty and vertebroplasty are also useful non pharmacological approaches for treatment of painful vertebral fractures.

### **Drug Review**

Common Name – Asthishrinkhala

English Name – Edible stemmed wine

Family -Vitaceae

### **Name in another languages**

Sanskrit – Asthisamhari, Vajrawalli

Gujarati – Hadsankal

Telugu – Nalleru Marathi – Kandbel

Kannada – Mangroli

### **CLASSICAL CATIGORISATION**

1.Bhavprakash – Guduchyadi Varga

2.Kaiyadev Nighantu- Lakshamanadi Varga

### **AYURVEDIC PROPERTIES**

Rasa – Madhur

Guna –Laghu, Ruksha

Virya – Ushna Vipaka – Madhur

Dosha karma – Paciefies Pitta Dosha

Dhatu (Tissue) effect – Rasa, Mamsa, Asthi, Shukra

Organ Effect – Bones, Joints

### **BENEFITS AND USES**

Cissus Quadrangularis has strengthening effects on bones, joint, ligaments and muscles. It is primarily used for treating the disease related to these structures. Bone fracture – Cissus Quadrangularis facilitates bone fracture healing by accelerating the proliferative physiological process in the bone. It increases the rate of bone regeneration and improves

blood circulation and nutrient supply to the bone. It preserves bone tissue anabolism and regeneration and promotes osteoblastic proliferation and differentiation.

### MAIN COMPONENTS

- ketosteroids • Freidelin • Resveratrol • Quadrangularis A as main bioactive constituents.
- 100 g cissus quadrangularis contains 327 mg vit C and 696 mg Vit E.

### THERAPEUTIC INDICATIONS

1. Bone fracture
2. Low bone mineral density
3. Osteoporosis
4. Osteoarthritis
5. Joint pains in athletes due to exercises
6. Gout
7. Rickets in children (along with calcium and vitamin D supplementation) helps to strengthen the bones and promote bone growth.
8. Weight loss (Obesity) – mainly beneficial for reducing abdominal adiposity, central obesity, accumulation of fat around pelvis, belly, buttocks and upper thighs.
9. Internal bleeding
10. Hemorrhoid – mainly bleeding piles
11. Improve digestion.

### CHIKITSA

*Vatopakrama* includes *Snehana*, *Swedana* and *Mridu Shodhana*. The different foods with *Svadu*, *Amla*, *Lavana Rasas*, *Usna Guna*, *Abhyanga*, *Mardana*, *Veshtana*, *Seka Snigdoshna Vasthis*, different *Snehas*, *Mamsa Rasa*, *Taila* and *Anuvasana*.

### Asthivaha Sroto Dushti Chikitsa

Same as *Asthipradoshaja Vikara Chikitsa- Panchakarma*, especially *Vasthis* with *Ksheera* and *Ghrita* processed with *Tikta dravyas*.

## Shodhana Chikitsa

Even though, Panchkarma is indicated for *Asthi Asritha Vyadhi* (Enema made from bitter substances) (*Tikta Rasena Siddha Ksheera Ghritha Vasti*) is the treatment of choice especially for *Asthikshaya*. *Tikta* rasa aggravates *Vata*, but processing them milk, ghee etc converts their pharmacological action and enables them to produce osteogenesis. When *Snigdha Guna* of milk and ghee is subjected to drying by bitter taste, solidity and hardness are achieved. So milk enema having ingredients of *Tiktaka Ghritha*, milk boiled with *Panchatikta Dravyas*, *Tila Taila* and honey are commonly used in clinical practice. *Anuvasana* with *Tikta Rasa Ghritha* is also a treatment of choice.

## Vasthi in Asthikshaya

*Vasthi* is desirable for diseases caused by *Doshas* of *Vata* predominance or *Vata* alone. Considered to be *Ardha Chikitsa* or *Agrya Chikitsa* among *Snehadi Karmas*, *Vasthi* even though staying in *Pakvasaya* draws out impurities from whole body, as the sun takes away sap of the earth even staying in the sky. Properly administered *Vasthi* promotes physical development, complexion, strength, immunity and life span.

In *Asthikshaya* *Tikta Rasa Siddha Ksheera Vasti* is indicated and as per *Susruta*,

*‘Dathasthu Prathamam Vasthi Snehayet Vasthi Vamkshanam. Ashtamo Navamaschapi Majjanamyadakramam’*

by administration of eight *Sneha Vasthi*'s it provides *Snehana* to *Asthi Dhatu*.

## Importance of Tikta rasa in the Treatment of Asthi Kshaya

Since *Akasa* and *Vayu bhutas* are predominant in *Tikta Rasa*, there is a chance of aggravation of *Vata*. To compensate this, *Ksheera* and *Ghritha* are added in combination. In an experimental study *Asthiskrinkhala Ghritha* is found to have anti osteoporotic effect.

## Sadyasadhyata

*Vata Vyadhi* is considered as one among the *Mahagadas* in Ayurvedic classics like *Charaka Samhita* and *Susrutha samhita*. It is difficult to cure because of its deep seated and



prolonged action. *Asthigata Vata*, since it affects the deep *Dhatu Asthi*, becomes more *Krichrasadhya*. *Charaka* opines the *Vatavyadhi* is either not curable due to *Sthana Gambheerata* or curable with effort in case they are of recent origin, in strong patients without any complications. *Yogaratanakara* has stated that all *Vatavyadhis* are *Asadhya* by nature. However, some of osteoporosis patients may get better relief depending on their *Prakrithi*, *Vayas*, *Bala* as well as severity of *Nidana*, *Dosha*, *Dooshya* etc of the disease.

## DISCUSSION

In Osteoporosis vis-a-vis *Asthimajjagata Vata*, etiological factors are very important. In *Aharaja Nidana*, due to the *Rooksha*, *Laghu*, *Alpabhojana*, the *Ahara rasa* is improperly formed, which cannot properly nourish succeeding *Dhatus* especially deep seated ones like *Asthi dhatu*. *Abhojana*, *Vishama Bhojana* etc may alter the *Agni* which have negative impact on *Rasa Dhatu* formation. *Ati Prajagara* i.e., excessive awakening at night alter the hormonal mechanisms of the body leading to increased reabsorption catabolism over the osseous tissue. *Diwaswapna* indicates sedentary lifestyle which is a cause of Osteoporosis. *Vegadharana* is a causative factor. Due to repeated suppression of bowel movements, the intestinal floral actions may be hampered leading to deficient calcium absorption. *Manasika Nidanas* like *Chinta*, *Soka*, *Krodha*, *Bhaya* etc are the aggravating factors of *Vata*, since *Vata* is the controller of *Manas*. In conditions like stress, anger, fear etc, hormones like cortisol will be excessively produced which increases calcium drainage from the body and retards calcium absorption from gut. Moreover as the age advances, there will be decreased anabolic and increased catabolic activity due to general increase of *Vata* according to age. In *Asthigata Vata*, *Samprapti* of *Vatavyadhi* is to be considered. Due to *Vatala Nidanas*, there occurs *Kapha Kshaya* and the binding force is lost and bones become brittle leading to *Asthigata Vata* and consequently *Asthi kshaya*. In osteoporosis, recurrent fracture of bones is usually the presenting symptom even though other subjective symptoms are seen in early stages. *Bhela* considers *Asthibhagna* as the prime *Roopa* of *Asthigatavata*. *Asthigatavata* is a disorder which occurs due to localization of vitiated *Vata* in *Asthi Dhatu*. In this disease there will be *Asthidhatu*

*Kshaya* which is caused by *Vata*. The treatment modalities mentioned here is *Brimhana* therapy which brings back *Vata Dosha* there by promoting the *Asthi Dhatu*.

*Cissus quadrangularis* (also called Hadjod and *Asthisamharaka*) is an ayurvedic herb used for strengthening bones and joints and promoting bone growth. It increases bone mineral density and enhances the rate of fracture healing. In addition to its uses in bone and joint disorders, it also used to treat loss of appetite, indigestion, hemorrhoid, intestinal worms, gout, internal bleeding and leucorrhea.

*Asthi Shrinkhala* has been described as *Asthiyuka* which means that it helps or promotes or maintains the conjugation of *Asthi Dhatu*. It has a significant effect on reducing the *Asthi Majjakshaya* (osteoporosis), and inhibits further degeneration. Researches prove that *Asthi Shrinkhala* has an active ingredient known as ketosterone which performs multiple action like-

1) It acts as an antagonist to the glucocorticoid receptor and promotes good bone health. 2) It shows anabolic steroid properties for healing of fracture 3) It mobilizes fibroblast and chondroblasts to an injured tissue and enhances regeneration. 4) It is helpful in the back and spine problems.

## CONCLUSION

Thus after analyzing all available literatures, Osteoporosis is understood as *Asthigatavata* in turn resulting in *Asthimajjakshaya*. Various treatment modalities that can be utilized in this condition is also discussed. Since this is a silent disease as it is usually diagnosed when a fracture occurs, it becomes too late to intervene. So it is better if preventive strategies can be adopted from an early age onwards. Adopting Ayurvedic principles which gives equal importance in both preventive and curative aspects can be explored by extensive research in this field. Clinical trials can be conducted formulating a treatment protocol for managing Osteoporosis.

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