The effect of Sandhaniya Mahakashaya along with diet and exercises in management of Jarawashtha Astikshaya and Astibhagna with special reference to Osteoporosis - A Review

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Abstract-

Ayurveda is science of life and longevity with the aim of prevention of the disease, rejuvenation of our body system.

Asthi is fifth important dhatu. Astikshaya is the condition in which there is kshaya of Asthidhatu commonly occurring in elderly people. Astikshaya may be compared to Osteoporosis. Osteoporosis is second most common metabolic bone disease in India, in which there is decrease in bone mass leading to bone fragility and consequently increasing the chances of fracture.

In Jarawastha due to vitiation of vattadoshakshaya of all dhatus occur including asthi. Ayurveda described jara is svabhavachryadhi and it is prone to vata related disorder. Vattaprakopa leads to Astikshaya and his pathology can be treated with proper diet plan with dietary habits and lifestyle mentioned in Ayurveda.

Rasayanchikitsa can also include with diet. Rasayanadravya are drugs to promote all dhatus. This drugs like mentioned by Charaka in sandhaniyagana give nourishment to Asthidhatu.

Keywords: Asthikshaya, Rasayana, Jarawastha, Sandhaniyagana

Introduction-

Asthikshya with special reference to Osteoporosis has become growing health problem in elderly population. Jarawastha or Vruddhayatra is Swabhavballapravrutavyadhi by Acharya Sushruta[1]. Acharya Charak said it is svabhavonishpratikriya[2].

In this phase of life vata become dominating in all doshas. Vata is responsible for almost all dhatukshaya (depletion of body tissue) including
Astikshaya. Vata and Asthi have Ashraya-Ashraayibhava \[^3\]. They are inversely proportional to each other. So Asthi directly affected by vitiation by vatdosha. Astikshaya is explained in 18 types of kshaya by Acharya Charak\[^4\].

Astikshaya(Osteoporosis) is severe common problem. Astikshaya can be compared to Osteoporosis and it is a rising,global public health problem. In current era lack of awareness of people about diet, exercise elderly people are suffering from osteoporosis which results in increase in bone fragility and fracture susceptibility. It is growing public health problem worldwide. It causes more than 8.9 million fractures annually in elderly people.\[^5\] It affects both genders, however, is more prevalent in woman particularly at menopause. One in three women and one in five men osteoporotic hip fractures in Asia. Bone lose is only partly reversible and treatment available in contemporary science is mainly symptomatic and sometimes surgical intervention require. The treatment in modern medical science includes.\[^6\]

1. Calcium supplement
2. Hormone replacement therapy.
3. Bisphosphonates

These medicines are not suited for everyone and not devoid of adverse effect. Early intervention can prevent Osteoporosis in majority.

Aim-

1. To study the fundamental concept of Astikshaya or Osteoporosis as per Ayurveda.
2. To evaluate effect of dietary habits and lifestyle by Ayurveda.
3. To evaluate effect Sandhaniyagannadravya in Astikshaya which are safe and cost effective drugs from classical text commonly used in practise have been analysed in context with asthikshaya w.s.r. Osteoporosis.

**Astikshaya Causes(Hetu)**\[^7\].

Intake of (dry,katu,tikta, tikshna,vidahi) food, irregular dietary habits, excess food, lack of exercise cause malnourishment. Jathargni (Digestive fire) and bhootagni are affected in elderly people by worry, fear (bhaya), anger(krodha), grief(shoka), insomnia (anindra) and vegdharna in Jaraawastha. Even excessive langhan (fasting) leads to malnourishment (apachaya) leads to vata vitiation so ultimately not providing proper nourishment to Asthidhatu resulting in ashikshaya.

**Astikshaya Symptoms**\[^8,9\].

- Astibheda
- Astikshula
- Kesh Loma NakhaSmashruVikaar.
- Dantapraptan
- Sandhishaiythilya
- Rukhta

**Material and Methods –**

**Diet**

- Sthira, Vishida, Tikta and RasatmakAahar
- Prithvimahbhut dominating food items
- Sheetvirya
- Tiktarasa good for asthi\[^10\]
- SnigdhaAahar\[^11\]
- Ghrita,kshira have rasayan properties\[^12\]
- Ghrita is known vaatshamak and it provide nourishment to Asthi. It is good source of vitamin D. Cow
milk is best source of calcium and other minerals and vitamin D.

- Vasa and majja (Animal fat and Bone marrow) describe in Ayurveda good for Asthi, Sandhi, and Asthibhaghna[13].

So elderly people diet must include milk, ghrita and chicken, mutton stalk.

Shukadhanya described in text (shashtishaali and raktashaali) are good for Asthibhagna explained by Sushruta in asthibhagnachikitsa.[14]

Godhuma (wheat chapati) helpful for bone fracture.[15]

Shakavarga: These vegetables, fruits have rasayan effects.

- Jivanti- leaves of (Lepadinia reticula)
- Punarnava- leaves of (Boehaviadiffusa)
- Shatavari- shoot of (Asparagus Racemosus)
- Bala – (Sida Cordifolia)
- Shingataka – (Trapa bispinosa)
- Varahakanda – (Dioscoriabulbifera)
- Khajura – (Phoenix dactylifera)
- Mrudvika – (Vitus vinifera)

Rules of dietary conduct -

The principle of eight rules of dietary processing( AshataAaharVidhiVisheshayatane)[16] .Prakruti (original qualities of food), Karana( producing specific qualities by processing and cooking food), Samayoga (combination), Rashi (Quantity), Desh (place of origin of food), Kala (time factor), Upayogasanstha (rules of intake), Upayokta(user).

Acharya Charaka emphasized that wise person should understand good and bad outcomes of right and wrong eating habits. Acharya mentioned 12 rules of consuming food (Dwadashbhojanvidhi)[17] which must followed elderly people while eating the food to get proper beneficial effect of food.

- Eat warm.
- Eat unctuous food
- Not to eat too fast.
- Not to eat too slow
- Do not talk while eating.
- Do not laugh while eating
- Food intake with self confidence.
- Eat in pleasant place with full concentration.( Do not watch television or screen while eating)
- Meetaahar: one must fill half your stomach with solid food, a quarter with liquids and keep a quarter empty. Overeating results in partially digested food which in responsible for producing ama’.
- Jirnaahar: One must eat after digestion of first meal. Digestive system takes 4 to 5 hours to digest the food.
- Sarvarasaabhyasa: Include all six taste in your meal sweet, sour, salty, pungent, bitter and astringent.[18]

Similarly, the concept of virudhahara (dietary incompatibility) and its 18 types to be observed in dietary care and people should aware about it.

Lifestyle:

Not only diet can change Asthikshaya pathology, but changes in lifestyle with physical exercises are necessary to maintain bone mass.
Lifestyle must be like mentioned in *AacharRasayana* by Acharya Charaka \[^{[19]}\] For e.g. quit alcohol and smoking.

Exercises like *walking, cycling, swimming* and practising suitable *Yogasana* should be included in daily regimen. Asana in *uprightposture* are most important.

- All types of stretching (*sukshmavyayama*)
- Sun salutation (*Suryanamskar*)
- *Trikonasana*
- *Vrukhasana*
- *Veerasana*

**DRUGS-**

Acharya Charaka mentioned 50 *Mahakashaya* in forth chapter of *Sutrasthana*. This group consists of 10 herbs each exhibiting one common pharmacological action. One such group is the *sandhaniyaMahakashaya[^{[20]}]* called unifying medicine. It includes

| Drugs Name | Botanical Name | Family | Rasa | Vipaka | Virya | Guna | Karma |
|------------|----------------|--------|------|--------|------|------|-------|
| Madhuka[^{[23]}] | *Glycyrrhiza Glabra* | Fabaceae | Madhur | Madhur | Sheeta | Guru | Snigdha |
| Madhuparni[^{[24]}] / Guduchi[^{[4]}] | *Tinospora Cordifolia* | Menispermaceae | Tikta Kashaya | Madhur | Ushna | Snigdha, Mrudu | Rasayana, Balya, Deepana, Amahara |
| Prishniparni[^{[25]}] | *Uraria Picta* | Fabaceae | Madhur Katu | Madhur | Ushna | Laghu Sara | Tridoshashamak, Vranahara, Dahashamak, Jwarghna |
| Priyangu[^{[26]}] | *Callicarpa Macrophylla* | Lamiaceae | Tikta Kashaya Madhur | Katu | Sheeta | Guru Rukasha | Vatahara, Dahahara, Jwarhara, Vishghana |

**Bhavprakashasamhita** mentioned the *guna* and *karma* of drugs are listed in following table. Acharya Vagbhata mentioned that *Priyangu* is the best *sadhankardravya*.[^{[21]}] Acharya Sushuruta also mentioned *priyanguadigana* as unifying (*sandhaniya*) function[^{[22]}].

With all these drugs we can *siddhaGhrita* or *Kshira (kshirpak)* to administer to *Asthikshaya* patient.

[^{[19]}]: Acharya Charaka
[^{[20]}]: *sandhaniyaMahakashaya*
[^{[21]}]: *sadhankardravya*
[^{[22]}]: *priyanguadigana*
Modern aspect of Drugs

Madhuka[27] (Glycyrrhiza glabra): commonly called as Liquorice / sweet wood is drug with sweet taste. It helps in accelerating wound healing. The potent chemical constituents, such as Glycyrrhizic acid and Glabrida are having anti-oxidant and anti-inflammatory properties. The drug provides nourishment to tissues, promote proper blood supply to the ulcer. It helps healing the wound gives stability to newly form tissue.

Madhuparni/Guduchi[28] (Tinospora Cordifolia) : A variety of active components derived from the plant like alkaloids, steroids, diterpenoid lactones, aliphatics and glycosides is known for immunomodulating, anti-neoplastic activities’ also has anti-diabetic, anti-periodic, anti-spasmodic, anti-inflammatory, anti-arthritic, anti-oxidant, anti-allergic, anti-stress, anti-leprotic, anti-malarial, hepatoprotective properties

Prishniparni (Urariapicta)[29] : It is perennial herb with distinct leaves. It is important ingredient of 10 herbs of Dashmoola which is known anti-inflammatory formulation. The useful partare roots. Roots are having antimicrobial and anti-inflammatory, anti Septic properties. Leaves are also having anti-septic properties., used for treatment of wounds. And because of early accumulation of phosphorus and more deposition of calcium, it’s very useful for fracture healing.

Priyangu[30] (Callicarpa Macrophylla): There are 2 varieties Priyangu, Gandhapriyangu. The second one is fragrant one. All parts of plant are used root, bar, leaves flower and fruits. Alcoholic extract of stem showed presence of glycosides, flavinoids, tannins, carbohydrates, steroids and absence of alkaloids, saporine, proteins and amino acids. While aqueous extract shows same constituents. Pharmacological properties are analgesics, digestive, blood purifier. Bark is used in the treatment of rheumatism. The plant has many chemical constituents which are responsible for various pharmacological and medicinal properties.

Discussion:

In this article, Asthikshaya is considered is due to Jarawasthadhatukshaya. And treatment of Asthikshaya should be done considering vataprakopa. So one must follow the diet, dietary rules, life style and exercises mentioned in this article to prevent the complication(fractures) of Asthikshaya. Also the plants discussed in article are pruthvimahabhuta dominating drugs, having snigdha, deepanguna. Though they are having tikta, katu, kashayarashat that may aggravate vata, they can be adminster with ghrita or kshira. These plant siddhaghrita or kshira provide nourishment to Asthi.

Conclusion:

Asthikshaya (Osteoporosis) is most common metabolic bone disorder characterised by reduced bone mass and osteoporotic fracture. This condition seriously affects the quality of life of individual and needs an effective treatment without adverse effect. So diet, lifestyle with
exercises and drugs/plants mentioned in sandhaniyamahakashaya are proved helpful in osteoporotic changes. These drugs are easily available, simple for administration and devoid of any adverse reactions. Further clinical studies can be planned to establish their role in the management of Asthikshaya.

References:

1. Ambikadutta Shastri, Vedotpattiadhyaya chapter 1 verses 33 of sutrasthana, Maharshi Sushuruta, Sushrutsamhita, , Edition reprint 2020, New Delhi, ChaukhambaPublications, page no 10.

2. Acharya VidyadharShukla, KatidhapurushiyaAdhayaChapter 1 verses 115 of sharirsthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 694.

3. Dr Ganesh Garde; Doshadividnyamadhay chapter 11 verses 26, 27 of Sutrasthana; SarthVagbhata; Edition 2016; Varanasi, ChaukhambaSurbharati Publication; page no .53

4. Acharya VidyadharShukla, KiyantashirsiyaAdhaya Chapter 17 verses 7 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 265.

5. Dipti, Richakhandelwal, Ankita Agarwal; Ayurveda Medical Plants for Asthikshaya (Osteoporosis): A review; in Journal of Ayurvedic and Herbal Medicine 2016; 2 (6): 229-235

6. Dipti, Richakhandelwal, Ankita Agarwal; Ayurveda Medical Plants for Asthikshaya (Osteoporosis): A review; in Journal of Ayurvedic and Herbal Medicine 2016; 2 (6): 229-235

7. Acharya Vidyadhar Shukla, SharirvichaysharirAdhaya Chapter 6 verses 9 of Sharirsthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 753

8. Acharya VidyadharShukla, KiyantashirsiyaAdhaya Chapter 17 verses 67 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 265.

9. Ambikadutta Shastri, Doshdhatumalkshayavridhidvidnyaniyaaadhaya chapter 15 verses 13 of sutrasthana, Maharshi Sushuruta, Sushrutsamhita, , Edition reprint 2020, New Delhi, ChaukhambaPublications, page no 76

10. Acharya Vidyadhar Shukla, VividhasheetpitiyaAdhaya Chapter 28 verses 27 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 431

11. Acharya Vidyadhar Shukla, VatavyadhichikistsaAdhaya Chapter 28 verses 93 of Chikitsasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 955

12. Acharya Vidyadhar Shukla, YajyapurushiyaAdhaya Chapter 25 verses 40 of Sutrasthana, Charakasamhita of Agnivesha,
13. Acharya Vidyadhar Shukla, SnehaAdhaya Chapter 13 verses 16, 17 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 391

14. Ambikadutta Shastri, Bagnachikitsaadhaya chapter 3 verses 5 of Chiktsasthana, Maharshi Sushuruta, Sushrutsamhita, Edition reprint 2020, New Delhi, ChaukhambaPublications, page no 27

15. Acharya Vidyadhar Shukla, AnnapanvidhiAdhaya Chapter 27 verses 21 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 391

16. Acharya Vidyadhar Shukla, Rasavimaniyadhaya Chapter 1 verses 21 of Vimansthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 554

17. Acharya Vidyadhar Shukla, Rasavimaniyadhaya Chapter 1 verses 24 of Vimansthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 557

18. Acharya Vidyadhar Shukla, Yajyapurashiyadhaya Chapter 25 verses 40 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 339

19. Acharya Vidyadhar Shukla, Rasayanaadhaya Chapter 1 chaturthpada verses 30-35 of Chikitsasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 69

20. Acharya Vidyadhar Shukla, Shadvirechanshatashritiyaadhaya Chapter 4 verses 5 of Sutrasthana, Charakasamhita of Agnivesha, Edition reprinted 2019, New Delhi ChaukhambaPublications, page no 72

21. Dr Ganesh Garde; Athatoannaswaroopvidnyaniyadhay chapter 6 verses 10, 11 of Sutrasthana; SarthVagbhata; Edition 2016; Varanasi, ChaukhambaSurbharati Publication; page no .24

22. Ambikadutta Shastri, Dravyasangraniyadhaya chapter 38 verses 47 of Sutrasthana, Maharshi Sushuruta, Sushrutsamhita, Edition reprint 2020, New Delhi, ChaukhambaPublications, page no 187

23. Padmashri Prof. K.C. Chunekar; Haritkyadiivarga chapter 1 verses 145, 146; Bhavprakash Nighantu of Sri Bhavamisra; Reprint 2020; Varanasi, Chaukhamba Bharati Academy; pae no 62

24. Padmashri Prof. K.C. Chunekar; Guduchyadivarga chapter 3 verses 7-10; Bhavprakash Nighantu of Sri Bhavamisra; Reprint 2020; Varanasi, Chaukhamba Bharati Academy; pae no 257.

25. Padmashri Prof. K.C. Chunekar; Guduchyadivarga chapter 3 verses 34, 35; Bhavprakash Nighantu of Sri Bhavamisra; Reprint 2020; Varanasi,
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Chaukhamba Bharati Academy; pae no 274.
26. Padmashri Prof. K.C. Chunekar; Karpooradivarga chapter 41 verses 104; Bhavprakash Nighantu of Sri Bhavamisra; Reprint 2020; Varanasi, Chaukhamba Bharati Academy; pae no 237.
27. Giulia Pastorino1 | Laura Cornara1, 2 | Liquorice (Glycyrrhiza glabra): A phytochemical and pharmacological review; Wileyonline library journal; Phytotherapy research; revised June 2018; 2323-2335
28. Soham Saha and Dr Shyamasree Ghosh; Tinospora cordifolia : one plant, many roles; Pubmed; Ancient science Life 2012;151-159
29. Jaykumar Mane, Dheeraj Nagore, Sohan Chitalange; Karpooradivarga chapter 41 verses 104; Bhavprakash Nighantu of Sri Bhavamisra; Reprint 2020; Varanasi, Chaukhamba Bharati Academy; pae no 237.
30. Pandey Ajay Shankar1, Srivastava Bhavana2 *, Wanjari Manish M3, Pandey Narendra Kumar4, Jadhav Ankush D5; Clicarpa Macrophylla- A review of its Phyto Chemistry, Pharmacology, Folklore claims and Ayurvedic Studies 91-100.