

A CLINICAL STUDY TO UNDERSTAND AND EVALUATE THE EFFECT OF PANCHATIKTA KSHEERA BASTI IN THE PREVENTION AND MANAGEMENT OF JARAJANYA ASTHIKSHAYA W.S.R.TO OSTEOPOROSIS

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ABSTRACT

Asthi is a condition of degenerative changes in *Asthi*, along with simultaneous vitiation of *vata dosha* residing in *Asthi*, it can be compared with osteoporosis that represents increased porosity of bones. The lifetime risk of any fracture occurring in men/women from the age of 50 years is more than 40%, where there is decrease in bone mass leading to increased bone fragility and susceptibility to fractures. Postmenopausal osteoporosis is a common, debilitating public health problem and disease seen in females. *Basti* prepared with *tikta ghrita* and *ksheera* has been said to be the treatment for *Asthi*. *Asthi* is not exactly a disease occurring due to *Dosha-Dushya Sammurchhana*, but a condition where because of degenerative changes in *Asthi* and *vata dosha* residing in *asthi* vitiates giving rise to symptoms like bone & joint pain. It can be compared with Osteoporosis & Osteopenia. Osteoporosis and Osteopenia both in fact represent the same degenerative pathology with difference in severity gradations hence both can be compared with *Asthi*. Total 15 patients of *Asthi* were taken and *Panchatikta Ksheera Basti* was given in karma basti pattern, follow up taken for a month to study the effect of treatment on subjective and objective parameters. Treatment showed significant relief in subjective parameters like *asthishoola*, *katishoola*, *sandhishoola*, B.M.D test, improvement in *jataragni* and also improved in the generalized strength of the body. The study shows that the *Panchatikta Ksheera Basti* is effective in the management of *Asthi* w.s.r.t. Osteoporosis and osteopenia.

Keywords: *Jara*, *Asthi*, *Pancha Tikta Ghrita*, *Ksheera Basti*, B.M.D.

INTRODUCTION

Ageing is the progressive, universal decline first in functional reserve and then in function that occurs in organisms over time⁵. Ageing is heterogeneous. It varies widely in different individuals and in different organs within a particular individual. Ageing is not a

disease; however, the risk of developing disease is increased, in old age. *Asthi* is not exactly a disease occurring due to *Dosha-Dushya Sammurchhana* but a condition where because of degenerative changes in *Asthi*, *vata dosha* residing in

asthi vitiates giving rise to symptoms like bone & Joint pain. It can be compared with osteoporosis & Osteopenia, where there is decrease in bone mass leading to increased bone fragility and susceptibility to fractures. Around the world 1 in 3 women and 1 in 5 men over the age of 50 suffer an osteoporotic fracture. In fact a bone will break every 3 seconds because of disease¹. Osteoporosis and Osteopenia both in fact represent the same degenerative pathology with difference in severity gradations hence both can be compared with *asthikshaya*². Many research studies have been carried out till date to find out effective treatment for Osteoporosis, but there are many restrictions in finding the solution even after long term use of the treatment protocol. Hence the present study was designed to understand and study the efficacy of *Panchatikta Ksheer Basti* in the management of *asthikshaya* w.s.r.to osteoporosis and osteopenia.

AIM: To understand and evaluate the efficacy of *Panchatikta ksheer basti* in the management of *Asthikshaya* with special reference to osteoporosis & Osteopenia.

OBJECTIVES:

- To study the conceptual and clinical aspects of *asthikshaya*, osteoporosis & Osteopenia.
- To assess the role of *Panchatikta Ksheer basti* in the management of *asthikshaya*.
- To assess the effect of *Panchatikta Ksheer basti* in the management of *asthikshaya* (with special reference to osteoporosis) in the terms of the effect on the subjective and objective parameters

MATERIALS AND METHODS

MATERIALS:

Drug used: *Panchatikta Ksheer basti*(*kala* pattern)

1) *Ksheerpaka dravya:*

- Guduchi:*
- Vasa:*
- Nimba:*
- Patola:*
- Kantakari:*

40grams + *Godugdha* (300ml) + Water (1280ml) = Reduced to *Ksheeravashesha*.

1) *Basti* formulation:

- *Madhu*-80ml
- *Saindhava*-10gms
- *Sneha- Panchatikta ghritha*- 120ml
- *Kalka- shatapushpa* 10gms)+*Yastimadhu* (10gms)
- *Panchatikta ksheera paka* - 300ml

ANUVASANA BASTI – *Panchatikta ghritha* - 120ml

METHOD:

Form of *Basti:* *Ksheer basti*, Dosage: 480ml, *Kala: Pratah* (10am to 11am), once a day., Duration of Trial: 30 days

Route of Administration: per rectal

STUDY DESIGN: PANCHAIKTA KSHEER BASTI (*kala* pattern)

1	2	3	4	5	6	7	8	9	10
A	K/A	K/A	K/A	K/A	K/A	K/A	A	A	A

<i>POORVAKARMA</i>	<i>Deepana pachana with Trikatu Choorna 3gms BD with Ushnajala till Niraamavastha. Koshta Shodhana with Gandharva hastadi taila. Sarvanga Abhyanga with Moorchita Tila Taila followed by Bashpa Sweda.</i>
<i>PRADHANAKARMA</i>	<i>Panchatikta Ksheera Basti. (kala basti) Dose 480ml Panchatikta Ghrita. Anuvasana -Dose 120ml</i>
<i>PASCHAT KARMA</i>	<i>After Ksheera Basti pratyagamana ushna jala snana and laghu bhojana. After Anuvasana sphik tadana, Mardana of soles and palms.</i>

Anuvasana basti given with *Panchatiktaka Ghrita* on the first day, followed by *Panchtikta ksheera basti* in the morning around 10am to 11am, after *Sarvanga Abhyana* with *Murchita tila Taila*, followed by *Mrudu sweda*(*Nadi sweda*). In the afternoon *Anuvasana Basti* was given for 6days. Last 3 days *Anuvasana Basti* was given to the patients.

Selection criteria-

- 30 patients clinically diagnosed as *asthikshaya* & with low BMD T-score were selected from O.P.D irrespective of sex, religion, education, occupation, economical status etc.

- Informed written consent was obtained from each & every patient.

Inclusion criteria

- Patient presenting classical signs and symptoms of *Asthikshaya*.

- Age 25 to 75 years

- Patients having BMD t-score <-1.0.

Exclusion criteria

Patients of osteoporosis or osteopenia suffering from

- Any congenital, structural deformities, severe anemia, venereal diseases, Hepatitis, HIV-AIDS, Malignancies, Tuberculosis, Cardiac disorders, renal failure, mental and infectious disorders

- Pregnancy

- Who requires surgical intervention Withdrawal criteria, the patient were withdrawn from the trial who had occurrence of serious adverse effects was non-cooperative, were violating the protocol.

INVESTIGATIONS:

BONE MINERAL DENSITY (BMD):

WHO has defined osteoporosis on the basis of BMD t score. Hence here Bone mineral density was done before the treatment and 2 months after the treatment. Estimated heel BMD was obtained from measured Broadband Ultrasound Attenuation and Speed of sound and scoring was done as per following standards.

Table 1- Bone Mineral Density ('t'-score) here

Criteria of assessment

The effect of therapy was assessed on the basis of changes observed in following parameters.

Subjective parameters:

Asthishool (pain in bones), *Sandhishool* (pain in joints), *Katishool* (low back ache)

Objective parameter:

BMD t-score. (Table-1)

Table 1: Bone Mineral Density ('t'-score)

Category	Bone Mineral Density ('t'-score).
Normal	A value of t-score within '1' standard deviation of young i.e >-1.0 Adult reference mean, i.e. t-score < -1.
Osteopenia	A value of t-score more than '1' and less than 2.5 standard deviation below the young adult reference mean i.e >-1.0 & <-2.5 i.e. -1 < t-score < -2.5
Osteoporosis	A value of t-score more than 2.5 standard deviation below the young adult reference mean. i.e. t-score >-2.5.

ASSESSMENT OF SUBJECTIVE CRITERIA: *Asthishoola*, *Sandhishoola* and *Katishoola*

Oxford pain chart was used for the assessment of *asthishool*, *sandhishoola* and *katishoola*.

Table 2:

	Severity of pain measurement		Pain relief measurement
1	Severe-03	1	Complete-00
2	Moderate-02	2	Good-01
3	Mild-01	3	Moderate-02
4	No pain-00	4	Slight-03

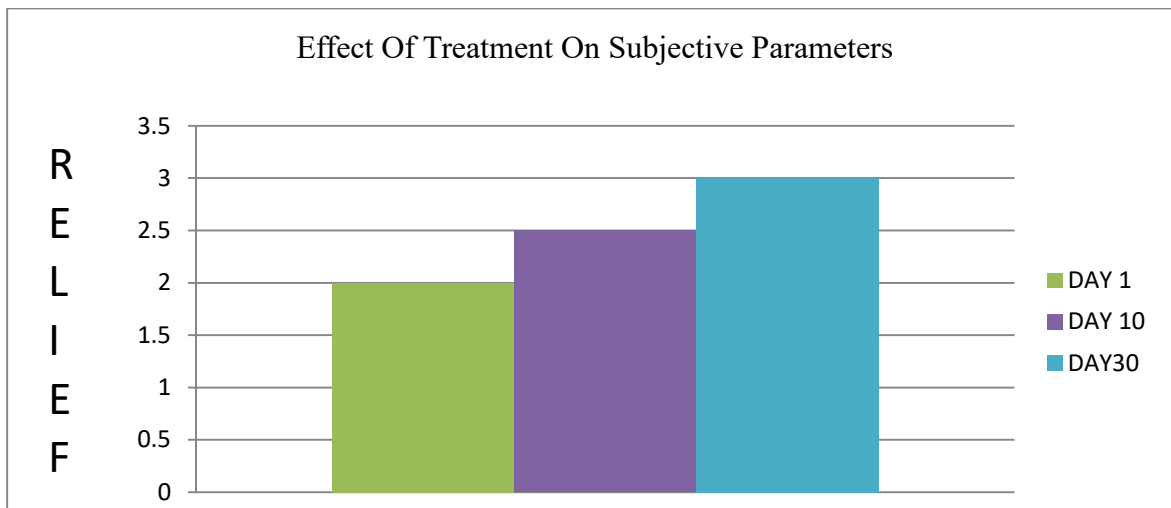
Explanation:

1. Severe pain-Patient is unable to do any movement.
2. Moderate-Movements are possible but continuous pain during movement.
3. Mild-Pain precipitating time to time.

that 13 patients were from the age group of 45-55years old, 10 patients were female. Among 15 patients 7 patients had disturbed sleep, 12 patients were of *madhyam aakruti*, and 11 patients were of *vatapradhan pittamubandhi prakruti*. Among 15 patients *sandhishoola*, *katishoola* and *asthishoola* were commonly found. Effect of drug on these parameters is shown in the graph.

OBSERVATIONS AND RESULTS

15 patients registered in the trial were followed up regularly and the data collected from this showed



Asthishoola- Analysis of means before and after treatment showed that patients got 55.58% relief in *asthishool* after treatment. 10 patients experienced 1 grade relief whereas 5 patients experienced neither relief nor increase in the symptom.

Katishoola- Analysis of means before and after treatment showed that patients experienced 51.64% relief in *katishool* after treatment. 3 patients got 2 grade relief which was significant, 8 patients got 1

grade relief, whereas 4 patients had neither relief nor increase in the symptom.

Sandhishoola- Analysis of means before and after treatment showed that patients experienced 52.94% relief in *sandhishool* after treatment. 9 patients experienced 1 grade relief whereas 6 patients experienced neither relief nor increase in the symptom.

DISCUSSION

The biochemical composition of tissues changes with age, physiologic capacity decreases, the ability to maintain homeostasis in adapting to stressors decline, and vulnerability to disease processes increases with age. After maturation, mortality rate increases exponentially with age. The process of ageing is cellular in nature. *Charaka* has explained in his theory of *Swabhavoparamavada* that “there is a causative factor for the manifestation of beings but no causative factor as such exists for their deterioration”⁶. That means the process of deterioration occurs naturally. Thus *Swabhava* can be considered as a responsible factor in the causation of *Jara* (ageing), which is deteriorating, invisible and nature’s unique process. Though the classical text do not explain the exact role of *dhatu* in ageing process but it is clearly mentioned in classics that during old age quantity as well as quality of *dhatu* is decreased, where the *Asthi dhatu* is being the important *dhatu* of the body will also go in to the process of deterioration. Hence nourishment of the *Asthi dhatu* as age advances is essential.

MODE OF ACTION OF DRUG:

Properties of constituents of *Panchatikta gana*⁴, *Rasa*: Predominant- *Tikta*., *Anu rasa*- *Katu* or *kashaya*., *Vipaka*: *Katu*; Except *guduchi* (*Madhur vipaka*), *Guna*: *Ruksha*, *Laghu*.

As age advances the *Anuloma dhaatu khsaya* will occur naturally, and chronologically the *Astikshaya*. *Asthi* is the *dhatu* which does *dharana* of the *sharira*, its *khsaya* will cause deterioration of the bone mass. For this *Ghritya yukta Tikta ksheera basti* is explained as a main line of treatment in the classics. According to Commentator *Arundatta* the substance that produces *Khratwa* (roughness) due to *snigdha* (unctuous) and *shoshan* (drying) properties increases *asthi*, as *asthi* is also *khara* by nature. But no substance is available that has both *snigdha* and *shoshan* properties. So *ksheer* (milk) and *ghrut* (ghee) which are *snigdha* in nature are advised to be

used with the substances which are *Tikta* (Bitter) and possess *shoshan* (drying) property³. This combination is best indicated in *Asthi kshaya* and *Asthi vikara* many years ago, and till date it is evident on clinical trials and we are getting appreciating results.

Discussion on results:

Effect of medicine on Subjective parameters- The statistical assessment shows effect of medicine was extremely significant in all parameters. The overall result on subjective parameters is more than 50%. Objective parameter remained the same after the follow up period.

CONCLUSION

Though the disturbance in the equilibrium in all the three *doshas* occurs during old age, there is dominance of *vata dosha* in this age. Ancient *Ayurvedic* scholars have clearly mentioned that during old age quantity and quality of all the *dhatu* decreases. The combination of dominant state of *vata dosha* and deterioration of *rasadidhatu*, *srotas* and *agni* are responsible for the various degenerative changes and process of decay in the body.

On the basis of Observations, following conclusion can be drawn:

Panchatikta Ksheer basti is effective in the treatment of *Jarajanya asthikshaya* especially in relieving the symptoms like *katishool*, *asthishool* and *sanshishool*. BMD T remained the same, but the symptomatology relived more than 50% and results were encouraging wholesome diet, *dinacharya*, *ritucharya*, *sadvritta*, *yoga* and time to time *panchkarma* are likely to develop an effective package for geriatric care today. *Basti* treatment will be helpful in restoring the vitality of the body and delaying the naturally occurring *Dhatu Kshaya* in the process of ageing.

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