

AYURVEDIC MANAGEMENT OF ACUTE OSTEOPOROTIC BACK STIFFNESS – A CASE REPORT

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ABSTRACT

Osteoporosis is a bone disease characterised by reduced bone mineral density and changes in bone microstructure, making patients more prone to fragility fractures. It is often asymptomatic until a fracture occurs, which presents as pain, local tenderness, and deformity. Sometimes osteoporosis is identified through radiological osteopenia or vertebral deformity on X-ray. In Ayurveda, it can be linked to *Kati prishtha graha* due to *Asthi kshaya*. This report describes a 67-year-old woman with acute stiffness and severe back pain, struggling to walk and experiencing worsened discomfort when lying down. Imaging revealed reduced vertebral height of L2 and L5 and degenerative changes in the cervical and lumbar discs. Hospitalised for management, she received *Bahya chikitsa* (~external therapies) and *shamana oushadhi* (~palliative treatment) as she declined *Panchakarma* (~Basti treatment). Significant improvements in pain, stiffness, and spinal mobility were noted, enhancing her quality of life as measured by the Oswestry index.

Keywords: Osteoporosis, loss of vertebral height, Ayurveda, *Kati prishtha graha*, case report

INTRODUCTION

Osteoporosis is the decrease in bone density, which causes micro-architectural deterioration of bone tissue, leading to an increased fracture risk in response to minor trauma. It is also due to the age-related decline in bone density, especially in women. About one-third of women and one-fifth of men aged above 50 years suffer from a fracture at some point in life. The burden of fractures related to osteoporosis is expected to increase by two to threefold by 2050 due to the ageing population.¹ Bone mass increases during growth to peak between 20 and 45 years. Still, it falls thereafter in both genders, with an accelerated phase of bone loss after the menopause in women due to oestrogen deficiency.⁷ There are about 10.7 per 1000 women and 5.7 per 1000 men with vertebral crush fractures around the globe. Only a fraction of these are recognised clinically, as many are relatively asymptomatic, and some are incidentally identified through radiography. Vertebral fractures rarely require hospitalisation but are associated with long-term morbidity and a slight increase in mortality. Multiple fractures lead to height loss (several inches), secondary pain and discomfort related to altered biomechanics of the back.⁶ Osteoporosis is called a “silent disease” because there are typically no symptoms until a bone is broken. Symptoms of vertebral (spine) fracture include severe back pain, loss of height, or spine malformations such as a stooped or hunched posture (kyphosis). Based on the clinical presentation, it can be correlated with *Kati prishtha graha* in Ayurveda, which is one of the *Vatavyadhi* (~disorders due to vitiated *Vata dosa*), and the cause in this patient is due to *asthi kshaya*(~osteoporosis). The *ashraya–ashrayi bhava* (~the inter-relationship among *dosa* and *dhatu*)³ of *vata dosa* and *asthi dhatu*

can be considered. *Asthi*(~bone) is said to be one of the prime sites of *vata*. According to this concept, *vata prakopa* (~*vata* vitiation) can lead to *asthi kshaya*, which in turn produces symptoms like severe pain in the *kati*(~pelvic region),*prushtha*(~back region),*asthi toda*(bony pain) and *katiprushta graha* (~stiffness of the back region). Though *basti*(~Therapeutic enema) is the main line of treatment for *vata dosha*, this case study demonstrates how *kati prasta graha*, due to *asthi kshaya*, was managed with simple ayurvedic *bahya chikitsa*(~external treatments) and *shamana chikitsa*(~internal medicine).

PATIENT INFORMATION

A 67-year-old woman from Moodbidiri, not a known case of diabetic or hypertensive, developed mild back pain a year ago while doing house chores, which subsided with rest. Three months ago, the pain worsened with stiffness. Imaging revealed degenerative changes and reduced vertebral height in L2 and L5. She was advised to rest, wear a Dorso-lumbar brace, take Vitamin D supplements, and use pain medication. The brace worsened her pain, so she wore it sparingly. Pain medication allowed her to continue house chores, ignoring bed rest advice. Two weeks ago, her condition worsened, leading her to seek Ayurvedic treatment. She was admitted on April 4, 2024.

CLINICAL FINDINGS

On Spine examination, a slight stooped posture and tenderness over the paraspinal area of the Lumbar spine(L1-L5) were present. Spine movements were limited (bending forward, backwards, and sideways), and lying down on the bed was difficult. The Oswestry Low Back Disability Questionnaire was evaluated (graph 1).

TIMELINE

Table 1: Timeline of Clinical events and interventions

Date	Clinical events
January 2024	Onset of lowback pain
February 12, 2024	Xray revealed degenerative changes in the lumbar region and scoliosis

March 22, 2024	MRI revealed degenerative changes in cervical and lumbar region Decreased vertebral height L2 and L5 with intervertebral disc herniation Medications (T.Ultracet,T.C3 plus, T.DV 60K)started
April 4, 2024	Admitted in ayurveda hospital Before treatment Oswestry lowback disability questionnaire assessment was done Medicine T.Ultracet was stopped.
April 5 – 15, 2024	Pichu with murivenna to the low back Bandhana with murivenna to the low back
April 15, 2024	Reassessment of Oswestry lowback disability questionnaire was done. Oral medication were prescribed(Table 2) Patient was discharged from IPD.
April 30, 2024	Follow up after 15 days Oswestry assessment was done

Dashavidha pareeksha:

<ul style="list-style-type: none"> • <i>Prakrti</i>(~Nature of individual) • <i>Vikruti</i> 	<ul style="list-style-type: none"> • <i>Vata-Pitta</i> • <i>Dosa</i> was <i>Vata</i>; <i>Dooshya</i> was <i>Asthi</i>; <i>Prakrithi</i> was <i>Vata-pitta</i>; <i>Desha</i>(~<i>Habitat</i>) was <i>Anupa</i>(~<i>Marshy land</i>); <i>Kala</i>:<i>Vardhkya</i>. Except for <i>desha</i> all other factors were <i>samya</i>(~similar). On <i>Hetu pareeksha</i> was <i>Mahat hetu</i>(~) for <i>vata prakopa</i> was evidenced in <i>Vihara-ja</i>(~<i>activities</i>) and <i>Vegavarodha</i>(~<i>suppression of natural urges</i>) and <i>abhishyandi</i> (~<i>blocking the srotas</i>) <i>nidana</i> of <i>dadhi sevana</i>(~<i>curd intake</i>) at night. On <i>linga pareeksha</i> <i>Mahat linga</i> were noted as acute onset severe <i>shula</i>(~<i>pain</i>) and <i>graha</i>(~<i>stiffness</i>) severely affecting the quality of life
<ul style="list-style-type: none"> • <i>Sara</i> (~<i>Nourishment</i>) 	<ul style="list-style-type: none"> • <i>asara</i> of <i>twak, raktha and mamsa</i>
<ul style="list-style-type: none"> • <i>Samhanana</i>(~<i>Compactness of body</i>) 	<ul style="list-style-type: none"> • <i>Samhatha shareera</i>
<ul style="list-style-type: none"> • <i>Satva</i>(~<i>Mental tolerance</i>): 	<ul style="list-style-type: none"> • <i>madhyama</i>(~<i>moderate</i>)
<ul style="list-style-type: none"> • <i>Satmya</i>(~<i>Habitation</i>) 	<ul style="list-style-type: none"> • <i>avara satmaya</i>(~<i>Minimum</i>) reason being <i>amla</i>(~<i>sour</i>),<i>lavana</i>(~<i>salt</i>) and <i>katu</i>(~<i>pungent</i>) <i>rasa satmya</i>, not <i>satmya</i> to <i>ksheera</i>(~<i>milk</i>), <i>ghrita</i>(~<i>ghee</i>) and <i>mamsarasa</i>(~<i>meat soup</i>)
<ul style="list-style-type: none"> • <i>Pramana</i> (~<i>Measurement of body</i>) 	<ul style="list-style-type: none"> • <i>Pramanavathi shareera</i> (Height - 155cm , Weight – 47.7)
<ul style="list-style-type: none"> • <i>Aharashakthi</i>(~<i>Power of digestion</i>) 	<ul style="list-style-type: none"> • both <i>Abhyavarana shakti</i>(~<i>Capability of intake</i>) and <i>Jarana shakti</i>(~<i>Ability to digest</i>) were <i>Pravara</i>
<ul style="list-style-type: none"> • <i>Vyayama shakti</i>(~<i>Capacity to exercise</i>) 	<ul style="list-style-type: none"> • <i>Avara</i> after the onset of symptoms prior to which she was physically active for her age
<ul style="list-style-type: none"> • <i>Vaya</i>(~<i>Age</i>) 	<ul style="list-style-type: none"> • <i>vridha</i>(~<i>old age</i>)
<ul style="list-style-type: none"> • <i>Rogi bala</i>(~<i>Patient strength</i>) 	<ul style="list-style-type: none"> • <i>Madhyama</i>
<ul style="list-style-type: none"> • <i>Roga bala</i>(~<i>Disease strength</i>) 	<ul style="list-style-type: none"> • <i>Pravara</i> by performing <i>Vikrititaha, hetu</i>(~<i>cause</i>)and <i>linga</i>(~<i>symptoms</i>) <i>pareeksha</i>

This *pariksha* was done to assess the *roga rogi bala* and to decide the *bheshaja Pramana*(~*dose of medicine*).⁵

DIAGNOSTIC EVALUATION

X-rays and an MRI on February 12 and March 22, 2024, revealed degenerative changes in the cervical

and lumbar regions and decreased vertebral height at L2 and L5, suggestive of a compression fracture. Upon hospital admission, her Oswestry Low Back Disability Questionnaire score was 91%, indicating she was bed-bound. This assessment was repeated at discharge on the 11th day and during a 30-day follow-up. The diagnosis followed Nidana Panchaka, identifying Vata aggravating factors such as strenuous activities (tailoring, long-standing, stair climbing, heavy lifting), ageing, and suppressing hunger and urination urges. Symptoms included acute stiffness, severe back pain, tenderness, difficulty with movement, sleep, and sitting. The condition was linked to Vata and Kapha doshas. After initiating treatment focused on Vata dosha, she experienced significant relief within three days. The MRI indicated asthi kshaya (bone loss), suggesting dhatwagni and bhutagni dysfunction. The pathogenesis involved Vata aggrava-

tion affecting the bones, with the disease pathway being Madhyama, originating in the colon, and manifesting in the lower back. The disease type was identified as one of the eighty Vata disorders, primarily Vata-pradhana, with specific properties and patterns. The condition was deemed treatable but chronic (yapya).

THERAPEUTIC INTERVENTION

On admission, pain medicines were stopped for Ayurvedic treatment. For pain relief (shula shamana), Pichu and Bandhana with Murivenna were applied to the lower back for three days. She was advised basti chikitsa (Matra basti with Pancha tikta guggulu ghritha) but refused. Instead, the same ghritha was given orally twice daily (5 ml). Bahya chikitsa and shamana oushadhi (Gandha taila and shulari vati) continued.

Table 2 : Oral Medications	
Medicines	Dose, frequency and anupana
Gandha taila drops	6 drops, once a day after food with warm water
Gandha taila capsule	1 capsule, once a day after food with water
Panchatikta guggulu ghrta	5ml, twice a day on hunger with warm water
Shoolari vati	1 tablet, twice a day after food with water
Murivenna	External application

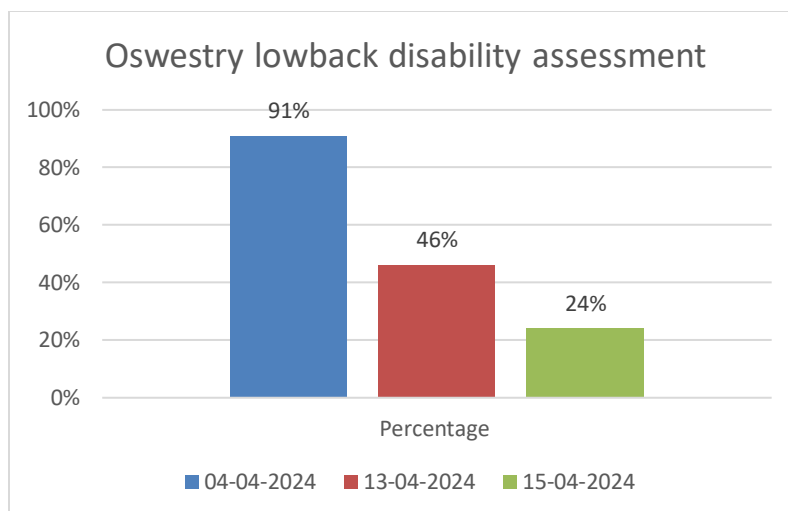
FOLLOWUP AND OUTCOME

After three days of treatment, the patient's stiffness and pain reduced, allowing uninterrupted sleep. By the 7th day, back tenderness lessened, and she could

walk unaided. Her Oswestry Disability Index improved from 91% to 46%. At the 30-day follow-up, stiffness was zero, pain was 2, and disability was 24%, with improved posture.



Graph of Oswestry lowback disability assessment: BT: Before treatment, AT: After treatment, Follow-up after 30 days of discharge from the hospital



DISCUSSION

An elderly female patient presented with graha and shula in the kati prashta region, indicative of vata vyadhi-kati graha (a Vataja nanatmaka vyadhi) with vata kara nidana and asthi dhatu involvement. MRI showed dhatu kshaya (osteoporosis) with loss of vertebral height. Diagnosis followed nidana panchaka, assessing roga and rogi bala. The disease strength (roga bala) was deduced as pravara, while the patient's strength (rogi bala) was madhyama due to shula and graha affecting her physical capacity.

The treatment considered Roga and Rogi bala. Sadhyasadyata was evaluated as yapy, indicating a manageable but chronic condition. Vata aggravation occurred in the evening. Nidana parivarjana (eliminating causative factors) and samprapthi vighatana (disrupting the pathogenesis) were prioritised. Given the predominance of apatarpana nidana and the vata vyadhi nature, Sneha therapy was selected. Panchatikta guggulu ghritha was chosen due to its effectiveness in asthi and majjagata conditions.

The patient received ghritha orally twice daily, considering her agnibala. Bahya sthanika chikitsa with Murivena taila in the form of Pichu and Bandhana was applied for its shula hara and healing properties. Internal medicines included shulari vati for pain relief and Gandha taila for strengthening bones. Pathya, including Aja Mamsa rasa, was incorporated to en-

hance treatment effectiveness and muscle strength while avoiding unwholesome diet.

CONCLUSION

Ayurvedic treatment, grounded in nidana panchaka and evaluated through trividha and dashvidha pareeksha, focuses on balancing dosha and vyadhi by understanding the disease through hetu and linga. There was significant improvement using Nidana parivarjana, samprapthi vighatana, santarpana chikitsa, shamanoushadhi, and pathyapathya. Oswestry scores improved from 91% (severe disability) to 46% (moderate disability) in 10 days and further reduced to 24% during follow-up. The patient did not need analgesics, demonstrating the efficacy of simple Ayurvedic treatments in managing acute vata conditions.

DECLARATION OF PATIENT CONSENT

Authors certify that they have obtained the patient consent form, in which the patient has given consent for reporting the case along with the images and other clinical information in the journal. The patient understands that his name and initials will not be published, and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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