



## Case Report

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### AYURVEDIC MANAGEMENT OF ANKYLOSING SPONDYLITIS: A CASE REPORT

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**ABSTRACT**

Ankylosing spondylitis (AS) is a common inflammatory rheumatic disease affecting the axial skeleton, causing characteristic back pain, leading to structural and functional impairments and decreased Quality of Life. Ankylosing spondylitis is characterised by impaired spinal mobility, postural abnormalities, buttock pain, hip pain, peripheral arthritis, enthesitis, and dactylitis. It typically affects young adults, and male to female ratio is closer to 3:1. Non-steroidal anti-inflammatory drugs are the first-line treatment for Ankylosing spondylitis. Disease-modifying anti-rheumatic drugs (DMARDs) are ineffective in the typical Ankylosing spondylitis patient with the disease limited to the axial skeleton, including hip and shoulder joints. In Ayurveda, Ankylosing Spondylitis falls under the broad perspective of 'Ama Vata' (Inflammatory or Rheumatic disorders). It primarily occurs because of the imbalance between Vata and Kapha doshas. These changes can be interpreted as vitiated Vata dosha affecting the Asthi and Majja dhatus (bone and the ligaments). Selected panchakarma (five internal bio-cleansing therapies) procedures followed by rasayana (rejuvenating) therapy and internal Ayurvedic medicines have been proven beneficial in managing Ankylosing spondylitis. The article presents the case report of Ankylosing Spondylitis in which there was considerable improvement after the intervention. The outcome of the intervention was assessed based on the scoring of the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI). There was considerable improvement in the symptoms, especially the pain and stiffness, after the intervention and on follow-up. Ayurvedic management seems to be promising in the management of Ankylosing spondylitis without any adverse effects.

**Keywords:** Ankylosing spondylitis, Amavata, BASDAI, Panchakarma, Rasayana

**INTRODUCTION**

Ankylosing spondylitis (AS) is a chronic inflammatory disease causing axial arthritis, frequently resulting in inflammatory low back pain early in the disease course, with eventual severe impairment of spinal mobility due to structural changes ultimately leading to fusion of the spine. Ankylosing spondylitis belongs to a group of rheumatic diseases known as Spondyloarthropathies (SpA), which show a strong association with the genetic marker HLA-B27<sup>1</sup>. Those with symptomatic Ankylosing spondylitis lose productivity owing to work disability and unemployment, have substantial use of healthcare resources, and also reduced Quality of Life. Involvement of the spine, sacroiliac joints, peripheral joints, digits, and entheses are characteristic of the disease. Compromised spinal mobility, postural abnormalities, buttock pain, hip pain, peripheral arthritis, enthesitis, and dactylitis are all concomitant with Ankylosing spondylitis <sup>2</sup>.

Ankylosing spondylitis typically affects young adults, and the male-to-female ratio is closer to 3:1.<sup>3</sup> Onset generally occurs in the late teens/mid-twenties. In women, onset at a younger age enhances disease susceptibility in the next generation.<sup>4</sup> The global prevalence of Ankylosing spondylitis is reported to be between 0.1% and 1.4%.<sup>5</sup> Its aetiology and pathogenesis are not yet fully known. Ankylosing spondylitis is a gradually progressive condition extending to several years until structural damage manifests clinically as sacroiliitis, loss of spinal mobility, extra-articular symptoms, peripheral arthritis and reduced Quality of life.

**Ankylosing Spondylitis: Ayurvedic View**

In Ankylosing spondylitis, principal complaints are pain, stiffness, and other associated symptoms that affect everyday life. The clinical features of Ankylosing spondylitis resemble Samavata (A severe combination of ama and Vata). The disease mainly affects the Asthi (bone) and Sandhi (joint). The symptomatology of Amavata described in Madhava nidana can be compared with that of the clinical presentation of Ankylosing spondylitis. (Table 1)

**Table 1: Symptoms of Amavata vs Ankylosing spondylitis**

Amavata <sup>6</sup>	Ankylosing spondylitis
Angamarda	Pain of the body parts
Sandhisoola	Joint pain
Gatrastamba	Body stiffness
Dourbalya	Weakness
Gaurava	Heaviness
Alasya	Lethargy
Nidranasa	Disturbed sleep due to pain
Uthsaha hani	Lack of vigour

Ankylosing spondylitis may be approached initially as Amavata, and in later stages, Vata vyadhi (disorder due to vitiated Vata) chikitsa is to be adopted. Here, in cases of Ankylosing spondylitis, Ayurveda management is based on Vatakapha shamana (palliative management for Vata and Kapha), which could also benefit Asthidhatu gata vyadhis (disorders involving bones) to be adopted. The protocol includes deepana/pachana (enhancing digestion and metabolism), snehapana (therapeutic internal oleation), and proper sodhana

(bio-purification therapy).

**Patient Information**

An Indian Hindu married female from Malappuram, Kerala, India, of 55 years attended OPD with complaints of pain and stiffness in the neck region for 17 years and also presented as generalized body aches for 2 years. Initially, she developed pain in the neck region, which gradually affected movements of the neck and progressively resulted in neck stiffness. She consulted an allopathic physician and only had transitory relief from the medicines. Gradually, she developed pain in the lower back region and flanks associated with stiffness, making it challenging to lie supine. Symptoms aggravated on exposure to cold and on undertaking heavy work. Later, she developed pain in the lower back and neck regions, which aggravated in the morning and evening hours, subsiding in the middle of the day. She underwent a course of Panchakarma (five internal bio-cleansing therapies) treatment in the hospital in 2022, after which she acquired marked relief in pain and stiffness, improving her Quality of life. As of now, she again developed pain in the lower back region and stretching pain in the lower back, especially when lying supine. She was admitted here for further management. The patient’s appetite, bowel and urine were within normal limits, and sleep was disturbed due to pain.

**Clinical Observation**

The patient had stretching pain in the lower back region, which aggravated at night, especially when lying supine. She also complained of spine stiffness, especially in the morning, and all the neck movements were restricted due to pain and stiffness. The medical history of the patient revealed thyroid dysfunction, and she was under its medication for the last 17 years. On examination, the patient was having disturbed sleep; appetite was moderate; Samhanana was madhyama (medium body built); Sama Pramana (average body proportion), sarva rasa satmya (habituated to all taste); Rogibala was madhyama (moderate strength), madhyama in Satva (moderate mental strength), Vyayamshakti was madhyama, (medium capability to carry on physical activities), Abhyavaharana shakti and Jaranashakti (medium food intake and digestive power) was also madhyama. Asthivaha Srotas and Majjavaha srotas were the srotas (bodily channels) involved in the disease. (Table 2)

**Table 2: Assessment of Ayurvedic Parameters**

Dushya	Dosha: Vata, Kapha Dushya: Asthi, Majja
Desa	Bhoomi: sadharana Deha: greeva, prushta and sandhi
Bala	Roga: pravara Rogi: madhyama
Kalam	Kshanadi: greeshma Vyadhyavasta: purana
Agni	Samagni
Koshta	Madyama
Prakrti	Vata Pitta
Vaya	Madhyama

**Table 3: TimeLine – Ayurvedic OutPatient and InPatient Management**

2005	The patient developed pain in the neck region. Seeks consultation with an allopathic doctor, which provided symptomatic relief.
2007	Despite the allopathic treatment, the pain persisted and gradually affected the movements of the neck. Stiffness also started and became evident.
2010	The diagnosis of Ankylosing spondylitis was confirmed after further evaluation. Allopathic treatment was initiated, and the patient continued medication for the management of symptoms.
2020	Transition to Ayurvedic medication for management of Ankylosing spondylitis. Experiences slight relief in pain with the new

The straightening of the cervical spine, absence of lordosis, and kyphosis of the lumbar spine were observed during the examination. There was loss of lateral flexion of the lumbar spine, but the forward flexion was possible, and there was no elicitable tenderness over the sacroiliac joint. Examination of the spine revealed restricted cervical mobility without tenderness. Movements of the spine, including flexion, extension, lateral bending and rotation, were restricted. Schober's test was positive as well.

X-ray of the vertebral column revealed straightening of the spine, anterolisthesis of L5 over S1 vertebrae, fusion of the intervertebral disc between L2-L3 and L5-S1, and other features of Ankylosing spondylitis with lesion in T12-L1 level, conus at L1 also observed. HLAB27 was also positive.

Baseline haematological investigations were done, which revealed haemoglobin 10.9g/dl, ESR 13 mm/Hr., uric acid 6.37mg/dl; TSH, serum (CLIA) 2.30 IU/ml, ASO titre 270 IU/ml.

After the assessment, as per the Ayurvedic clinical parameters, the case was diagnosed as Amavata, and a treatment strategy was formulated accordingly. Due to the chronicity of the disease and the severe clinical presentation, the vyadhi was considered yapya (manageable). (Table 3 and 4)

**Internal Medication**

Table 5 delineates a comprehensive regimen of internal medications, detailing their respective doses, administration time, and purpose. Amrithotharam kashaya, Vaiswanara churna and Chukkutippalyadi gulika support digestion, enhance Agni (digestive fire) and gets rid of ama. Punarnavadi kashaya possesses anti-inflammatory and analgesic properties. Dasamula Hareetaki lehya pacifies Vata and provides relief from inflammation and pain. Kaisoraguggulu addresses bone and joint disorders and helps diminish pain. Dhanwantharam kashaya reduces pain and stiffness. Dhanwantharam gulika is consumed after meals, pacifies Vata, and has an analgesic effect. Bala churna, Ashwagandha churna, Laksha churna, and Rasnadi ghrta are administered as rasayana (rejuvenation therapy). (Table 5)

**Diagnostic assessment of the outcome**

The effect of the therapy was assessed based on changes observed at the clinical level. A numerical score was assigned for each sign and symptom using the scales Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Quality of Life assessed by Ankylosing Spondylitis Quality of Life questionnaire. (Table 6 and 7)

On assessing the condition of the patient after 45 days of treatment by using scales - Bath Ankylosing Spondylitis Disease ActivityIndex (BASDAI) and Ankylosing Spondylitis Quality of Life Questionnaire showed marked relief in pain, stiffness and fatigue, and there was improvement in the Quality of Life.

management regimen.				
17/11/22	Due to worsening of symptoms, admitted to the hospital for Ayurvedic management.			
	Date	Treatment	Rationale	Observation
	17/11/22 to 21/11/22	Rookshana (inducing dryness) Dhanyamladhara 5 days	Amapachana, agnideepana (increase in digestion and metabolism)	Stiffness and pain reduced
	22/11/22 to 26/11/22	Snehapana (therapeutic internal oleation)- Rasnadi ghrita	Vatarogahara	Bowel comfortable, fatigue reduced. Presence of snehamsa in bowel, aversion towards ghee. Samyak lakshana (indication of proper treatment) was attained on the 5th day.
	27/11/22 to 28/11/22,	Swedana, Kottamchukkadi taila + Karpooradi taila	Attaining vilayana or draveekarana (softening and liquefaction of accumulated doshas)	Pain reduced
	29/11/22	Virechana - Nimbamrutadi eranda 30 ml	Sodhana (purification)	Pain reduced. Six vegas (specific signs of proper purgation) were attained.
	30/11/22 to 06/12/22	Kashayadhara- Medication: Dasamula + Karaskara kashaya	Vedanahara (pain-relieving), ama pachana (digestive aid)	Pain reduced.
Assessment of the Bath Ankylosing Spondylitis Disease Activity Index revealed significant improvements from the first week to the last week in symptoms such as neck, back, and hip pain, with a reduction from 100 to 75. Additionally, there was a decrease in morning stiffness intensity from 80 to 50 and a slight decrease in duration from 1 ½ hours to 1 hour. Fatigue also notably improved, decreasing from 90 to 50. No pain or swelling in other joints was reported during both assessments.				
07/01/23	After one month, she attended OPD for a follow-up, and the symptoms were relieved. Internal medication was continued for two months			
24/01/2024	She was again admitted to the hospital due to pain in the lower back region along with stretching pain in the lower back region on supine posture.			

Table 4 Therapeutic Interventions from 25/01/24 Onwards

Treatment	No of days	Medicine	Rationale	Remarks
Rookshana	3	Dhanyamla dhara	Amapachana	Agnideepana. Stiffness and pain reduced.
Takrapana	1	1.5 L takra + 10 gm Vaiswanara churna	Rookshana, deepana	Agni improved.
Snehapana	5	Dhanwantaram mezhukupakam <sup>7</sup>	Pacifies Vata reduces pain and oedema and improves mobility in degenerative joints	Bowel comfortable, presence of snehamsa in stool, fatigue, aruchi, nausea, aversion towards ghee, samyak lakshana attained on 5 <sup>th</sup> day.
Sweda	2	Dhanwantara taila <sup>8</sup> + karpooradi taila <sup>9</sup>	For attaining vilayana or draveekarana of dhatugata doshas	Pain reduced.
Virechana	1	Nimbamruta eranda 30 ml	Sodhana	5 vegas. Pain reduced.
Kashayadhara	7	Dasamula + karaskara	Vedanahara and amapachana	Pain reduced.

Table 5: Internal Medications

Medicine	Dose	Time	Rationale
Amrithotharam kashaya	90 ml	6 am and 6 pm before food	Amapachana
Chukkutippalyadi gulika <sup>10</sup>	1-0-1	2 times after food	Amapachana
Punarnavadi kashaya	90 ml	11 am 8 pm after food	Sophahara and rujahara
Vaiswanara churna <sup>11</sup>	5 gm	Twice with hot water before food	Agni deepana and amahara
Dasamula hareetaki lehya <sup>12</sup>	5 gm	After dinner	Vatahara, rujahara and sophahara
Kaisoraguggulu	1-0-1	2 times after food	Vararaktahara in Asthimajagata Vata.
Dhanwantharam kashaya	90 ml	6 am, 6 pm	Reduce pain and stiffness
Chandraprabha gulika	1-0-1	2 times after food	Vataraktahara
Dhanwanthara gulika <sup>13</sup>	1-0-1	After food	Rujahara
Bala churna + Ashwagandha churna+ Laksha churna + Rasnadi ghrita	Starting dose 1:1:1/4 increasing up to 8:8:2 (7 days) continued the same dose for 3 weeks	6 am	Rasayana

Table 6: Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)

Symptoms	BT 1 <sup>st</sup> day	AT 1 <sup>st</sup> week	AT 2 <sup>nd</sup> week	AT 3 <sup>rd</sup> week	AT 45 <sup>th</sup> day
Fatigue	More	Less	Less	Less	Less
Neck pain, back pain, hip pain	100	75	60	50	30
Pain or swelling in other joint	Nil	nil	Nil	Nil	Nil
Morning stiffness – intensity	80	50	50	40	40
Morning stiffness- duration	1 ½ hour	1 hour	1 hour	1 hour	½ hour

BT: Before Treatment, AT: After Treatment

**Table 7: Ankylosing Spondylitis Quality of Life Questionnaire**

Questionnaire	First day	45 <sup>th</sup> day
Condition limits the places to go	Yes	Yes
Sometimes feel like crying	No	No
Have difficulty in dressing	Yes	No
Struggle to do the job around the house	Yes	No
Impossible to sleep	Yes	No
Unable to join in activities with friends and relatives	Yes	No
Tired all the time	Yes	No
Keep stopping what was doing to rest	Yes	Yes
Unbearable pain	No	No
It takes a long time to go in the morning	Yes	No
Unable to do jobs around the house	Yes	Yes
Tired easily	Yes	Yes
Get frustrated	No	No
Pain is always there	Yes	No
Feel miss out on a lot	No	No
Difficulty in washing hair	Yes	Yes
Condition get me down	No	No
Worry about letting people down	No	No

The case study demonstrates a comprehensive Ayurvedic management plan for Ankylosing spondylitis. The protocol includes selected therapies such as rookshana (inducing dryness), snehapana (internal oleation), sweda (sudation), and Virechana (purgation), along with internal medications and dietary recommendations on a conditional basis. These are designed to alleviate the symptoms, improve digestion, and promote overall well-being.

Before performing snehapana, rookshana is ideal, which subsides the associative Kapha dosha and also enhances the Agni, for which dhanyamladhara and takrapana were done. Dhanyamla possesses the amapacana property, which improves Agni and reduces pain and stiffness. The takrapana possesses amla rasa, laghu guna and deepana properties. Later snehapana was administered with Dhanwantharam mezchukupaka. It pacifies all the Vata ailments, reduces pain, and improves the mobility of even the joints with degeneration.

Samyak snigddata was attained on the 5<sup>th</sup> day of snehapana. Then sweda was done aimed at achieving vishyandana and vilayana of dosha, so as to bring them to kosta. Dhanwantaram taila and Karpuradi taila were used for the purpose. Sodhana was done as virechana with 30 ml Nimbamrtadi eranda. After sodhana, to reduce pain and for ama pachana, kashaya dhara was done with Dasamula and Karaskara kashaya. Rasayana therapy has been specified a crucial place in Ayurvedic classics, mainly aimed at restoring the balance of the dhatu metabolism<sup>14</sup>. Bala, Ashwagandha, and Laksha as churna were administered for one month as rasayana, along with internal medication.

There was significant improvement in pain, stiffness, and fatigue after undertaking Ayurvedic treatment for 45 days. Assessments using the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Ankylosing Spondylitis Quality Of Questionnaire revealed marked relief and improved quality of life.

However, acknowledging that there may be individual variations in Ayurvedic treatments and their responses, as in all conditions including Ankylosing spondylitis.

### CONCLUSION

The Ayurvedic perspective offers valuable insights into Ankylosing spondylitis, correlating its clinical features with the concept of Amavata and emphasizing a management approach

aimed at pacifying Vata and the Kapha doshas. Through a combination of therapies, including Dhanyamla dhara, snehapana, sweda, Virechana, and kashayadhara, Ayurvedic interventions strive to alleviate the symptoms and improve the Quality of life.

The case study highlights a patient's condition with Ankylosing spondylitis, detailing the progression of symptoms, diagnostic assessments, and therapeutic interventions. From initial allopathic management to the subsequent adoption of Ayurvedic approaches, the patient's experience underscores the importance of personalized, holistic care in managing chronic conditions such as Ankylosing spondylitis. Overall, the interdisciplinary approach offers promising avenues for addressing the multifaceted challenges Ankylosing spondylitis poses. The case report highlights the improvement of the subject with Ankylosing spondylitis in their clinical presentation and the Quality of Life, which was the main objective of the proposed treatment. By integrating diverse perspectives and therapeutic modalities, healthcare practitioners can strive towards better outcomes and enhanced Quality of life in Ankylosing spondylitis.

### Declaration of the Patient Consent

Authors certify that they have received the patient consent form, in which the patient has given her consent for reporting the case along with the clinical information in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed. The study is carried out as per the International Conference of Harmonisation - Good Clinical Practices Guidelines (ICH – GCP).

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