



# “Efficacy of Ayurvedic Therapeutic Interventions in the Management of Ankylosing Spondylitis – A case study”

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## ABSTRACT:

*Ayurveda* is an ancient medical science that promotes balance and wellness through time-tested practices. With rising chronic and lifestyle-related diseases, *Ayurveda* offers preventive healthcare solutions. There are many aspects of the human health where *Ayurveda* thrives and offers long term relief along with an improved quality of life, one of those aspects is autoimmunity. One peculiar disease caused by autoimmunity which hampers the overall lifestyle of a patient is Ankylosing spondylitis. Ankylosing spondylitis (AS) is a chronic and progressive inflammatory disorder that affects axial skeleton and eventually causes pain, and stiffness. Sometimes structural deformities are also seen in people with this disease. In *Ayurveda*, its clinical presentation closely resembles *Asthi-Majja Gat Vata*, a condition characterized by vitiation of *Vata Dosha* affecting the bone (~*Asthi*) and marrow (~*Majja*). This case study is of a 30 year male presenting with severe lower back pain, morning stiffness and restricted spinal movement. He was HLA-B27 positive, so he was diagnosed with Ankylosing spondylitis. The treatment protocol included *Snehana* (~oleation), and *Nadi Swedana* (~sudation) and internal medications like *Tryodashang Guggulu*, *Balarishta* and *Maharasnadi Kwath*. *Ayurvedic* interventions addressed the root cause and pathogenesis involving *vata* vitiation, provided symptomatic relief and improved quality of life. After 30 days, the patient showed marked improvement in all the symptoms. This case study suggests that a comprehensive *Ayurvedic* approach based on the principles of *Asthi-Majja Gat Vata* can be effective in the management of Ankylosing Spondylitis, offering a promising strategy for long-term disease control and symptom relief.

**Keywords** - Ankylosing spondylitis, *Asthi-majja gat vat*, *Nadi swedan* , *Asthi Dhatus*

## INTRODUCTION :

Ankylosing Spondylitis (AS) is a chronic inflammatory disease with insidious onset causing axial arthritis resulting in early symptoms such as low backache with stiffness and progresses with eventual severe symptoms such as loss of spinal mobility and sacroilitis ultimately leading to spinal fusion.<sup>[1]</sup> Sometimes, there is also involvement of peripheral joints and other articular structures. Musculoskeletal pain, stiffness, and immobility of spine due to ankylosing spondylitis cause major discomfort and reduces the quality of life in such patients. As the disease progresses, the symptoms worsen overtime and thus this disease is said to be a debilitating autoimmune disease. Men are more prone to this disease .There is a male-to-female ratio of about 3 : 1. The real cause of the disease is not known, but genetics and environmental factors tend to play a crucial role in the pathogenesis of the disease. In Europe, more than 90% of those affected are HLA-B27-

positive (Caucasian HLA-B27 population prevalence is 9%). The overall prevalence of AS is below 0.5% in most populations.<sup>[2]</sup> Ankylosing spondylitis primarily affects the sacroiliac joints present at the base of the spine and the other sites involved are iliac crest, greater trochanter, patella, ischial tuberosity, and calcaneum.<sup>[3]</sup> Spinal stiffness and a chronic back pain are the commonest presenting symptoms of this disease. Extra-skeletal manifestation like IBS (50%), acute anterior uveitis (25-35%) and psoriasis (10%) are also seen.<sup>[4]</sup> The outer annular fibers are eroded and eventually replaced by bone, forming an early syndesmophyte, which then grows by endochondral ossification, ultimately bridging the adjacent vertebral bodies.<sup>[5]</sup> This process finally leads to fusion of the spine, known as “bamboo spine” which changes the normal curvature of the spine and reduces the flexibility of the spine, thus reducing mobility. This makes everyday life very difficult for the patient thereby reducing the overall quality of life. Treatment of the disease include Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and Disease Modifying Anti Rheumatic Drugs (DMARDs). The signs and symptoms of ankylosing spondylitis does not resemble exactly to any of the diseases mentioned in *Ayurveda Samhitas* but it can be correlated to *Asthi- Majja Gata Vata* based on the similarity in some symptoms. *Asthi-majja Gata Vata* is a disease in which *Vata* is vitiated which affects the *Asthi Dhatus* and causes damage to the *Dhatu*. *Asthi-Majja Gata Vata* have symptoms like *Asthibheda* (bones pain), *Sandhi Shoola* (~joint pain), *Parva Bheda* (~painful inter-phalangeal joints), *Satata Ruk* (~continuous pain), *Bala Kshaya* (~fatigue), and *Mamsa Kshaya* (~loss of muscular mass); Other symptoms like *Adhyasthi* (~fusion/ankylosis) is mentioned in the *Asthi pradoshaja vikara* (~bony disorders).<sup>[6]</sup> The treatment revolves around *Shamana* of the aggravated *Vata dosha* as it is the root cause of the disease and then strengthening of the bones and muscles needs to be done. Based on these symptoms, we treated a patient of ankylosing spondylitis as *Asthi-Majja gata vata* and found significant relief in the symptoms.

This case is an approach to an otherwise difficult to cure progressive disease. Contemporary science use NSAIDS for pain relieving but no permanent cure is seen. Also, long term use of such drugs leads to side-effects. This case is unique as it gives a ray of hope and integrates *panchkarma* and medicines to provide a well balanced treatment procedure according to the patients complaints.

#### **Patient information –**

A 30-year-old male patient came to Kayachikitsa outpatient department of our hospital with Cr no A31853. He complained of severe joint pain in multiple joints, stiffness in joints and walking difficulties. He also complained of severe fatigue since 5 years.

#### **History of present illness –**

The patient was asymptomatic 5 years ago, then he gradually started having back pain which worsened over time. He also felt some stiffness over the back region that made everyday life difficult. He took several treatments for his problems but caught no relief. Acute phase reactants like ESR and CRP were raised, which indicated an inflammatory process. After that, some other tests were advised in which HLA-B27 was found to be positive. Then the diagnosis was made of ankylosing spondylitis was made and treatment was done according to that. Still, he got no relief and over a period, his pain increased, and many other joints were involved like the ankle joint, the wrist and knee joint. The spinal stiffness also increased which was more in the morning. The pain was consistent and tingling in nature. He also felt severe fatigue. He took various treatments, but no significant relief was found. So after this, the patient came to our hospital with these complains for further management.

#### **Clinical Findings-**

#### **Past History –**

No history of tuberculosis, diabetes mellitus, hypertension, hypothyroidism, any surgery or chronic illness.

**Past treatment history-**

naproxen sodium- pain reduced but soon relapse was seen.

Adalimumab – no significant relief was noted.

**Family history –**

Mother was HLA-B27 positive

**Personal history-**

Appetite- poor

Bowel – regular

Micturition- normal

Sleep – disturbed

**Psycho-social history-**

Socio-economic status - poor

Type of work - labour

Stress and anxiety- present due to the disease status

**Physical Examination -**

Vitals - Stable

Blood pressure- 118/74

Pulse Rate - 70/min

Respiratory rate- 16/min

Temperature- Afebrile

Others (oedema, pallor, icterus, lymphadenopathy)- Not present

**DIAGNOSTIC ASSESSMENT -****Investigations-**

Hb-11.2 g/dl

ESR- 48 mm/hr

CRP- 22 mm/hr



RA Factor- negative

Anti CCP antibodies- negative

HLA-B27- positive

**X- RAY findings-** joint spacing reduced, syndesmophytes present

### ***Ashtavidha Pariksha***

*Nadi - Vata- Pittaj*

*Mutra- Samyak*

*Mala -Sama*

*Jihwa- Sama*

*Sparsha – Anushna*

*Shabda – Spashta*

*Drishti – Prakrit*

*Aakriti - Madhyama*

- Diagnosis was done mainly on the basis of symptoms, a positive HLA-B27 gene and the following Criteria-

### **Modified New York Criteria for Ankylosing Spondylitis <sup>[7]</sup>**

1. Low back pain persisting for  $\geq 3$  months reduced by exercise and not relieved by rest.
2. Limited motion in the lumbar spine in coronal and sagittal planes.
3. Limited chest expansion compared with normal values for age and sex.

Radiographic criterion-

1. Unilateral grade 3 or 4 sacroilitis or bilateral grade 2 sacroilitis on plain radiograph

### **Differential diagnosis-**

<b>Disease</b>	<b>Reason for exclusion</b>
Mechanical low back pain	Morning stiffness was present
Rheumatoid arthritis	RA Factor and Anti CCP antibodies were

	negative RA rarely involves sacroiliac joints
Spinal tuberculosis	No symptoms like fever, weight loss, night sweats
Reactive arthritis	No history of previous infection

**Diagnostic challenges** - The disease primarily affects the *Asthi* (bone) and *Majja* (bone marrow) *Dhatus*. The *Vata* dosha, gets aggravated in its own place (*Sthana*), causes degeneration and weakness in body (*Kshaya*) and severe pain (*Asthibheda* or *Sandhishoola*), which can be difficult to manage if diagnosis is made on time or when the condition is chronic.

### Therapeutic Interventions-

Table 1 List of panchkarma procedure –

Procedure	Medicine used	Days
<i>Sarvang snehana</i>	<i>Mahanarayan tail</i>	7
<i>Nadi swedan</i>	<i>Dashmool kwath</i>	7
<i>Prista basti</i>	<i>Ksheerbala tail</i>	5

Table 2 List of oral medicines given for 1 month-

Medicine	Dose	Frequency
<i>Ashwagandha churna</i>	3 gm	Twice a day
<i>Ekangveer Ras +Sameer Pannag Ras</i>	125 mg+ 125 mg	Twice a day
<i>Trayodashang guggulu</i>	250 mg	Twice a day

Table 3- List of oral medicines given for the next two months –

Medications	Dose	Frequency
<i>Trayodashang guggulu</i>	250 mg	Twice a day
<i>Balarishta</i>	10 ml with equal quantity of water	Twice a day
<i>Maharasnadi kwath</i>	15 ml	Twice a day
<i>Erand bhrishta haritaki</i>	5 gm with lukewarm water	At night

**Intervention Adherence and tolerance** – Patient was co-operative and followed every instruction advised to him. Also during treatment, he never complained about any problem or side-effect of drug.

**Adverse reaction- none**

**Follow up and Outcome –**

After this treatment patient felt reduction in almost all the symptoms. The sacroiliac pain reduced significantly and gradually , stiffness also reduced both in duration and severity . The patient's weight also started increasing after 1 month and he gained 2 kg throughout the treatment. The muscle weakness also reduced and the Patient felt ease in daily movements . The muscle tone also improved by treatment. The total effect of therapy was assessed by Bath Ankylosing Spondylitis Disease Activity Index (BASDAI).

Table 4: Bath Ankylosing Spondylitis Disease Activity Index (BASDAI)<sup>[8]</sup>

Symptoms	Before treatment	After treatment
Fatigue	8	3
Neck, back and hip pain	9	4
Pain and swelling in other joints	7	3
Enthesitis	7	4

Intensity of morning stiffness	8	3
Duration of morning stiffness	9 (105 min - 2 hours )	3 (30-45 min)

BASDAI – B.T – 7.9

A.T - 3.4

## DISCUSSION -

This case was managed on the lines of *Asthi-Majja gata vata* according to similarities seen in symptoms with Ankylosing spondylitis. Improvement was seen in most of the symptoms of the disease including joint pain, stiffness and fatigue. Drugs that were used worked on the principles of *vatashaman, shothar, shoolaghna, balya and brimhana*.

### *Snehana*

Treatment was started by giving *abhyantar Snehapana* where medicated *Sneha* given by oral route as per the assessment of *koshtha* and *agni bala* of the patient. This will reduce the *Vayu*, it loosen the channel of body and improve the digestive power with loosen any constipation or any waste accumulations.<sup>[9]</sup> *Mahanarayana taila* was used for *snehana* as it consists of drugs having *Santarpana* quality. *Mahanarayana taila* with its *katu* , *tikta rasa,laghu* , *ruksha guna,ushna virya* and *katu vipaka*. Thus it has *deepana, pachana, srotoshodhana* and *Vata-kaphasamana* properties.<sup>[10]</sup>

### *Swedana*

*Snehana* is followed by *Swedana* which has properties like *Sthambhaghna* (sudation), *Sandhicheshtakar* (improved joint mobility), *Srotoshuddhikar* (clearing the microchannels), and *Kapha-vata nirodhana*. *Swedana* breaks down the pathophysiology by reducing obstruction in the micro channels, it expands the *srotas* and liquefies the *Doshas*, doing so. This reduces joint stiffness and allows the *Doshas* to move back toward their *sthana*.<sup>[11]</sup> *Swedana* was done with *Dashamoola Kwatha*, which is *Vata Kapha Shamaka*, thus it helps in reducing *Shoola* and *Sthabdata*.

### *Kati Basti*

*Ksheerbala Taila* suppresses nerve inflammation due to its sheet property and promotes nerve regeneration and gives strength to muscles due to its *Balya* and *Brimhana* properties of its drug. It helps in the wear and tear of nervous and muscular tissues. It is said to have effects on all eighty chronic conditions of *Vata* origin.<sup>[12]</sup>

### *Ashwagandha churna*

*Ashwagandha* is *Balya*, and *Shotha-hara* and possesses *rasayana* properties. *Ashwagandha* root was found to inhibit the NF- $\kappa$ B and MAPK (mitogen-activated protein kinase) pathways by decreasing the expression of pro-inflammatory cytokines, including interleukin (IL)-8, IL-6, tumour necrosis factor (TNF- $\alpha$ ), IL-1 $\beta$ , and IL-12, and increasing the expression of anti-inflammatory cytokines.<sup>[13]</sup>

## ***Ekangveer Ras + Sameer Pannag Ras***

The combination balances all three *Dosha* specially *Vata* and *kapha*. It relives stiffness caused due to *Kapha Vata Anubandha*. It increases metabolic process in CNS & PNS, thus it facilitates good neuromuscular communication.<sup>[14]</sup>

## ***Trayodashang guggulu***

The contents of *Trayodashang Guggulu* were mainly *Guru*, *Snigdha guna*, *Madhur rasa*, *Madhur vipaki* and *Ushna virya* in properties. *Trayodashanga Guggulu* is useful in *Snayugatavata* (~various tendon and ligament disorders), *Asthigatavata* (disorders of bone), *Majtagatavata* (disorders of bone marrow), *Khanjavata* (limping disorders), and various *Vata* disorders (~neurological, rheumatic, and musculoskeletal diseases).<sup>[15]</sup>

## ***Balarishta***

*Balarishta* has contents like *bala*, *ashwagandha*, *eranda*, *rasna* which have *vatashamaka* properties. This also helps in increasing the *bala* and *agni* of patient.

## ***Maharasnadi kwath***

*Maharasnadi Kwath* helps to pacify *Vata Dosha* and has anti-inflammatory and analgesic properties.

## ***Eranda bhrishta Haritaki***

*Haritaki* is *deepana*, *pachana*, *srotoshodhaka* and has *laghu guna*, performs the *anulomana karma* due to *amla rasa*, *madhura vipaka*, is *vedanasthapaka* due to *ushna virya*. *Eranda taila* is regarded as the best *vata* pacifier and *vrishya* in nature. Thus together, these two drugs helps in relieving the root cause of the disease as well as the symptoms.

## **CONCLUSION**

Ankylosing spondylitis is a disease that hampers the daily life of a person if proper and timely diagnosis and management is not done. Thus a well revised plan of treatment needs to be advised for proper management of disease and improving the quality of life of patient. This study is a positive step towards that direction. The results of the treatment protocol were promising, However, a larger group of study is required for better assessment.

**Source of support – none**

**Conflict of interest – none**

**Patient's perspective (as on 30.08.2025)**

I was healthy 3 years ago, then I developed severe pain and stiffness in joints and walking difficulties. The pain and fatigue increased more with time. It led to a lot of stress in daily life. I took several medicines but no improvement was seen. Then I came to GACH for treatment. The medicines gave good results in around 15 days. No side-effect was seen. I am very happy with the treatment given to me.

**Patient's Consent -** A written informed consent was obtained from patient for publishing of this case study.

## Author contributions

SM- Conceptualization and Treatment plan, Critical Editing of Draft , data curation , guarantor

SK- Rough Draft, Data Collection and presentation, supervision

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