

## An Ayurvedic approach to Ankylosing Spondylitis: A Case Study

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Ankylosing spondylitis is a chronic progressive inflammatory disease primarily affecting the axial skeleton along with peripheral joints and extra-articular structures usually with sacroiliitis usually manifests in 2nd or 3rd decade with male: female ratio of 2:1 to 3:1. The symptoms are mostly marked in early morning and after inactivity but reduced by movement. As per Ayurveda, it may be correlated with Kati-Prishtha Trik Graha where major symptoms are Stambha and Shula in Kati-Prishtha Pradesh having Vata-Kapha predominance. This case study involves the Ayurvedic management of a 37-year-old male who visited the Panchakarma OPD of our institute with complaints of difficulty in forward bending, morning stiffness and low back pain since last 1 year. After proper examinations the patient was diagnosed with Kati-Prishtha Trik Graha and was treated with Abhyanga, Patra Pinda Swedana, Erandamuladi Niruha Basti along with Shamana Aushadhi. Assessment criteria were done by ASDAS score. The present study showed multi-nodal Ayurveda treatment with encouraging results in alleviating subjective parameters without causing any adverse effects. This study may provide an opportunity to establish a standard, therapeutically effective and safe ayurvedic treatment protocol for Ankylosing spondylitis.

**Keywords:** Ankylosing spondylitis, Kati-Prishtha-Trik Graha, Erandamuladi Niruha Basti, Ayurveda

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## Introduction

The word ankylosing spondylitis comprises of two Greek words: *Ankylose* meaning stiff / rigid and *Spondylos* meaning vertebra. It's a chronic progressive inflammatory disease primarily affecting axial skeleton, peripheral joints, & extra-articular structures usually with sacroiliitis. The symptoms are mostly marked in early morning and after inactivity but are reduced by movement/ exercises. It usually manifests in 2nd or 3rd decade with male: female ratio of 2:1 to 3:1. The genetic involvement of TNF- A, HLA-B27, IL-1 causes immune mediated inflammation. As disease progresses, stiffness in spine may limit range of motion, affecting posture and mobility. In modern medicine NSAIDs & DMARDs are used for management of ankylosing spondylitis but show limited results. So, there is a need to search a satisfactory management in ayurveda. A patient of ankylosing spondylitis was treated as per ayurvedic management of *Kati-Prishtha Triak Graha* where major symptoms are *Stambha* & *Shula* in *Kati-Prishtha Pradesh* (low back region) having *Vata-Kapha* predominance. Current case was successfully treated by Ayurveda line of manag. with *Sodhana* (Bio-purificatory therapies) followed by *Shamana Chikitsa* (oral medications).

## Case Report

A 37-year-old male, non-alcoholic, non-smoker, married serviceman visited Panchakarma O.P.D of I.P.G.A.E.R at SVSP with complaints of difficulty in forward bending, morning stiffness and low back pain since last 1 year. After careful investigations, patient was admitted to male Panchakarma ward on 28th March 2024 for panchakarma procedures. The patient was on ayurvedic treatment since beginning of his signs and symptoms. No such relevant family history was found.

### Clinical findings

The patient had several episodes of squeezing type of lower back pain, difficulty in forward bending along with morning stiffness lasting throughout day since last 1 year along with disturbed sleep due to pain and reduced appetite. Cold temperature, long standing (>10 mins), prolonged sitting (> 20 mins), walking (>30 mins), exercises especially forward bending, prolong lying in supine posture at night and changing posture while sleeping aggravated symptoms while mild stretching,

After walking a bit distance and hot fomentation relieved symptoms. The patient is an established case of Ankylosing spondylitis as past medical history reveals that he consulted an Ayurvedic physician and was advised for a routine examination, Digital X-ray of LS spine and HLA-B27 which showed positive results. The patient was having *Vata-Pittaja Prakriti*, *Vata-Kaphaja Vikriti*, *Pravara Sattva*, *Sarvarasa Satmya*, *Madhyama Samhanana*, *Madhyam Pramana*, *Madhyama Ahara Shakti* and *Jarana Shakti*, *Avara Vyayama Shakti* and *Madhyavastha*. *Dushya* was *Mamsa*, *Meda*, *Ashti*, *Upadhatu- Kandara*, *Snayu*, *Madhyama Rogamarga*, *Pakwashaya* as *Udbhavasthana*, *Kati-Prishtha* as *Vyaktasthana*, *Asthi-Majja-Purisha Vaha Srota* affected, *Srota Dushti* was *Sanga*, *Srotavarodha* by *Ama*. Personal history revealed reduced appetite, proper digestion, regular laxated bowel, normal bladder movement (5-6 times/day), disturbed sleep, no such addiction. There were restricted neck movements, tenderness present in lumbo-sacral joint and SLR was positive to 60° angle. Schober's test was positive (< 5cm). Digital Xray of LS spine revealed straightening of cervical spine with loss of lumbar lordosis alongwith early degenerative changes in Sacro-iliac joint. Human leukocyte antigen (HLA) typing was previously done on 19th November 2003, was found positive for HLA(B-27). Haematological tests were done on 18th January 2024 revealed Hb%- 14 %, ESR- 25, FBS- 89 mg/dl, PPBS- 100mg/dl, CRP- 8 mg/dl.



Figure 1: Digital X-ray of L.S spine

## Diagnostic assessment

The patient had symptoms of pain and stiffness along with disturbed sleep and loss of appetite. According to *Acharya Susruta*, *Shula* (pain) can never happen without the involvement of *Vata*.<sup>[1]</sup> So, these features can be correlated with various conditions mentioned in Ayurvedic classics like *Gridhrasi*, *Amavata*, *Katigraha* and *Kaphavrita Vata*. In *Gridhrasi* there is a specific pattern of constant pain which is felt in the lumbar region that radiates to the *Kati* (buttock), *Pristha* (back), *Uru* (thigh), *Janu* (knee), *Jangha* (calf), *Pada* (foot).<sup>[2]</sup>

This is not found in our case, so *Gridhrasi* is eliminated. In *Amavata*, there is *Angamarda*, *Aruci*, *Trishna*, *Alasya*, *Gaurav* along with *Jwara* and *Vrischikvata Vedana*<sup>[3]</sup> which are majorly not found in this case, so it was also excluded. The primary *Samprapti* of *Vatavyadhi* are *Srotavarodha* (obstruction) and *Kshaya* (degeneration). *Acharya Charaka* has mentioned *Kati-Pristha-Trik Graha* under the umbrella of 80 types of *Vataja Nanatmaja Vyadhi*.<sup>[4]</sup>

*Acharya Sodhala* has mentioned *Katigraha* as a separate disease in *Vatavyadhi Cikitsa Adhyaya* where there is involvement of *Ama* along with *Vata* causing *Stambha* in the *Katipradesh*.<sup>[5]</sup> This indicates that *Avarana* of *Kapha* in *Sandhi* leads to the obstruction and aggravation of *Vata* in *Kati Pradesh*. Considering the signs and symptoms it was correlated with *Kati-Pristha-Trik Graha* and treated accordingly.



**Figure 2: Ingredients for Patra Pottali Swedana**



**Figure 3: The prepared drug is kept in cotton cloth**



**Figure 3: Bolus formed**



**Figure 4: Swedana applied**



### Therapeutic Assessment

*Snehana* (oleation), *Swedana* (fomentation) and *Basti* (medicated enema) are line of treatment of *Vatavyadhi*. Here patient was having complaints of *Shula* and *Stambha* which are *Lakshana* of *Vata Prakopa* along with *Graha* which is due to *Kapha*. The primary aim should be *Vata Prashamana* along with *Kapha Shamana*. So, treatment started with *Sarvanga Abhyanga* (external oleation therapy) for 30 mins with *Prasarani Taila* taken quantity sufficient. The patient was given *Patra Pinda Swedana* (bolus fomentation) for 15 days which is indicated for *Vatakapahaja* condition.

*Erandamuladi Niruha Basti* (medicated decoction enema) 500ml was given in *Kala Basti* schedule of 15 days along with *Anuvasana Basti* (medicated oil enema) with *Saindhavadi Taila* (60 ml). After completion of therapies the patient was discharged on 13th April 2024.

On discharge, *Pathya-Apathya* (dietetic regimes) were explained. The *Shamana Aushadi* (oral medications) given were *Trayodashanga Guggulu* 500 mg twice daily after meal, *Rasnasaptak Kwatha* 20 ml twice daily before meal, *Triphala Churna* 3 gms once daily at night for 1 month.

### Ayurvedic interventions followed in case of ankylosing spondylitis

| Therapies  | Drugs   | Amount  | Procedure   | Duration                    |
|--|---|---|---|-----------------------------|
| 1. Sarvanga Abhyanga (external oleation)                         | Prasarani Taila   | Quantity sufficient   | Message was done for 30 mins on entire body in 7 different postures.  | 30 mins for 15 days         |
| 2. Patra pottali pinda swedana (bolus fomentation) (Fig. 1 to 4) | Nirgundi Patra, Eranda Patra, Chinch Patra, Dhatura Patra, Shigru Patra, Arka Patra Grated coconut (1/2) Lemon Shatapushpa Churna, Methi Churna.  | 30 gms each<br>100 gms each<br>150 gms<br>4 pieces<br>5 gms each        | The leaves along with other drugs were fried in Tila Taila and cooked well. Bolus was formed by filling the processed drug in cotton clothes and used for fomentation till Samyak Swedana Lakshana.   | 20 mins for 15 days.        |
| 3. Anuvasana Basti (medicated oil enema)                         | Saindhavadi Taila   | 60 ml   | Lukewarm oil was taken and was administered steadily after proper meal in the evening on every alternate day in Kala Basti schedule.  | 9 Basti in 15 days schedule |
| 4. Erandamuladi Niruha Basti (Total - 500 ml)                    | Saindhava Lavana Madhu Tila Taila<br><b>Kalka -</b><br>Shatapushpa, Hribera, Priyangu, Pippali, Yastimadhu, Bala, Rasanjana, Indrayava<br><b>Kwatha -</b><br>Erandamula, Palash, Laghupanchamula, Rasna, Ashwagandha, Atibala, Guduci, Devdaru Punarnava, Amlavetas, Madanphala Gomutra | 6gms<br>60 ml<br>60 ml<br>15 gms.<br>(total)<br>300 ml (total)<br>50 ml | Rock salt and honey are mixed properly then after Tila Taila was added and a homogenous mixture was formed. Paste of powdered herbs were added and mixed well followed by decoction of drugs. Gomutra (cow's urine) was added and the total mixture heated upto lukewarm. The prepared patient was made lay on left lateral position and medicated enema administered on empty stomach before meal. | 6 Basti in 15 days schedule |
| Oral Medication  | Dose  | Dosage  | Anupana   | Duration                    |
| 1. Trayodashanga Guggulu   | 500 mg<br>20 ml   | Twice daily after meal.   | Sukhoshna Jala (lukewarm water)   | 1 month                     |
| 2. Rasnasaptak Kwatha  | 6 gms   | Twice daily before meal.  | Sukhoshna Jala (lukewarm water)   | 1 month                     |
| 3. Triphala Churna   |   | Once at night   | Sukhoshna Jala (lukewarm water)   | 1 month                     |

### Follow-Up and Outcome

The haematological investigation was repeated on 20th April 2024 where CRP was reduced to 6 mg/L. Significant improvement were noted in other parameters(table). Stiffness, pain, fatigue, appetite, sleep and acute phase reactants (CRP) were reduced after treatment. There was an improvement in functional capacity and global condition of the patient.Two follow ups were done after discharge on 15th day 31st day.

### BT- AT comparison in case of ankylosing spondylitis

| The Bath AS Disease Activity Index (BASDAI)                           | BT         | AT         |
|---|------------|------------|
| Fatigue/ tiredness  | 4          | 2          |
| AS type neck pain or hip pain   | 8          | 2          |
| Overall level of pain/ swelling on other joint except neck, back, hip | 0          | 0          |
| Overall level of discomfort in any area, tender to touch/ pressure    | 8          | 4          |
| Level of discomfort from the time of waking up                        | 9          | 6          |
| Duration of morning stiffness on waking up (in hrs)                   | 2          | 0.5        |
| <b>Total BASDAI Score</b>   | <b>5.9</b> | <b>2.9</b> |

| Ankylosing Spondylitis Disease Activity Score with CRP (ASDAS-CRP) | BT         | AT         |
|--|------------|------------|
| Back pain  | 8          | 2          |
| Duration of morning stiffness                                      | 9          | 5          |
| Global assessment of disease activity                              | 5          | 2          |
| Peripheral pain/ swelling  | 0          | 0          |
| CRP  | 8          | 6          |
| <b>Total ASDAS-CRP Score</b>                                       | <b>3.3</b> | <b>1.9</b> |

### Subjective Parameters

| Subjective Parameter | Before Treatment | After Panchakarma Therapy | After 1st Follow Up | After 2nd Follow Up |
|----------------------|------------------|---------------------------|---------------------|---------------------|
| Appetite             | Poor             | Improved moderately       | Improved            | Proper              |
| Sleep                | Disturbed        | Improved mildly           | Improved            | Improved markedly   |
| Pain                 | Severe           | Improved                  | Improved            | Improved markedly   |
| Stiffness            | Severe           | Mildly improved           | Mildly improved     | Moderately improved |

## Discussion

The line of treatment of *Vatavyadhi* is *Snehana*, *Swedana*, *Mridu Samsodhana*.<sup>[6]</sup> At first *Snehana* (oleation) was done as *Sarvanga Bahya Abhyanga* (massage) with *Prasarani Taila* for 15 days. *Snehana* helps provide unctuousness, softness and moistness in the body.<sup>[7]</sup> *Prasarni Taila* is indicated in impairment of *Snayu*, *Sandhi*, *Asthi* and *Mamsa Peshi* as it helps in relaxing and soothing the constricted structures. *Swedana* (fomentation) helps in mitigating *Stambha* (rigidity), *Gaurava* (heaviness) and *Shita* (coldness)<sup>[8]</sup> from body and also helps in *Ama Pachana* and movement of *Dosha* from *Sakha* to *Kostha*. *Patra Pottali Pinda Swedana* is a type of *Snigdha-Ruksha Sankara Swedana* (bolus fomentation) which is indicated for *Vata-Kapha Janya Vyadhi*.<sup>[9]</sup> It contains the leaves mentioned in *Swedopaga Gana* of *Acharya Charaka* having *Ushna Virya*, *Snigdha*, *Sukshma Guna* and *Vata-Kaphahara Karma*. By the virtue of *Guna*, it pacifies *Vata-Kapha* and does *Ama Pachana*. *Basti* acts on *Pakwashaya* and no any remedy other than *Basti* is effective in combating *Vata Vikara*.<sup>[10]</sup> It is considered as "*Ardha Cikitsa*" (half treatment).<sup>[11]</sup> It expels *Dosha* and *Mala* from the body and restores *Agni*, *Bala*, *Varna* and *Vaya*.<sup>[12]</sup> *Erandamuladi Basti* possesses *Deepana* and *Lekhana Karma*.<sup>[13]</sup>

The ingredients used in *Basti* preparation possesses *Sukshma*, *Ushna*, *Tikshna Guna* and *Kaphavatahara* properties. *Erandamuladi Niruha Basti* is indicated in *Jangha*, *Uru*, *Pada*, *Trika*, *Prishta Shoola* and *Kaphavrita Vata*.<sup>[13]</sup> The main ingredient, *Erandamoola* (root of *Ricinus communis*.) is said to be a *Shreshta Vatahara Dravya* by *Acharya Caraka*.<sup>[14]</sup> *Trayodashanga Guggulu* possesses *Snigdha Guna*, *Ushna Virya*, *Madhura Vipaka*. The ingredients have *Vedanasthapana* and *Rasayana* effects in the body.<sup>[15]</sup> *Rasnasaptak Kwatha* has *Rasayana*, *Sothahara*, *Shulahara* and *Vatahara* properties. It is indicated in *Jangha*, *Uru*, *Pristha*, *Trika* and *Prashashula*.<sup>[16]</sup> *Triphala* is a magical drug composition having *Deepana*, *Pachana*, *Chakshushya*, *Anulomana*, *Rasayana* and *Tridosahara* effects.<sup>[17]</sup> At present the patient is better than before and the quality of life of the patient has improved.

## Conclusion

Ankylosing spondylitis is a chronic inflammatory disease hampering the quality of life. Combined ayurvedic treatment with *Shodhana* followed by *Shamana* therapies has shown encouraging result especially in the management of pain, decreasing the severity of deformity and improving the quality of life. The current study shows that Ayurvedic therapies are very effective, cost efficient and less complicated treatment protocol as evidenced by the marked reduction in BASDAI and ASDAS-CRP score values for Ankylosing spondylitis.

### Patient perspective

The patient was satisfied with the improvement. He was able to start his day with a ray of hope and positive energy. He has developed a firm belief in *Ayurveda*.

### Patient consent

Written permission for publication of this case study had been obtained from the patient.

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