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# Ayurvedic Management of Ankylosing Spondylitis - A Case Report

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## ABSTRACT

**Introduction:** Ankylosing Spondylitis (AS) is a sero negative chronic inflammatory arthritis of unknown cause that primarily affects the axial skeleton which usually begins in the second or third decade of life with a male to female ratio of 3:1. The prevalence rate of AS in India is 0.03%. It is clinically correlated to *Danda Apatanaka* in Ayurveda. It is caused due to the vitiated *Vata* and *Kapha Dosh*a which enters the *Dhamani* and causes stiffness of the body. Due to its known complications and its tendency to hamper the quality of life, there is a need for an effective Ayurvedic intervention. This report is based on a case of Ankylosing Spondylitis which presented with pricking pain over nape of the neck and low back associated with stiffness and restricted movements, swelling over nape of neck right shoulder and right side of face, associated with restricted movements of right upper limb. **Methods:** This case was diagnosed as *Danda Apatanaka* and was treated with *Basti Karma*, *Abhyanga* along with oral medications. Assessment was done before and after treatment using relevant scales. **Result:** After 2 weeks of treatment pain and swelling over the nape of neck, right shoulder and face resolved completely, pain and stiffness of low back reduced, pain in right upper limb reduced and patient was able to perform normal movements. Stiffness of neck still persisted. **Conclusion:** Ankylosing spondylitis can be effectively managed by Ayurvedic treatment modalities after proper assessment of the involved *Dosha* and *Dhatu*s.

**Key words:** Ankylosing spondylitis (AS), Ayurveda, Basti karma, Danda Apatanaka, Maha Sneha.

## INTRODUCTION

Ankylosing spondylitis is a chronic inflammatory arthritis of the axial skeleton with various skeletal and extra skeletal manifestation. It shows a strong association with the antigen HLA-B27. Around 90% of the people suffering with AS carry the

histocompatibility antigen HLA-B27. It usually starts in the second and third decade of life with a male to female ratio of 3:1<sup>[1]</sup> and prevalence rate of 0.03% in India.<sup>[2]</sup> The characteristic features of AS includes insidious onset of low back pain with marked stiffness. Initially the disease affects the lumbo-sacral spine which gradually ascends upto the cervical spine leading to ankylosed spine, spinal rigidity, secondary osteoporosis causing increased risks of spinal fractures. The early physical signs of AS includes restricted movements of the lumbar spine in all directions, restricted chest expansion due to involvement of thoracic spines and costo-vertebral joints. The pathology in the spine includes the formation of syndesmophyte along the annulus fibrosus which bridges the adjacent vertebral bodies, the ascending progression of this process leads to the formation of bamboo spine. The above features are correlated to *Danda Apatanaka*<sup>[3]</sup> in Ayurveda in

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which there is vitiation of *Vata* and *Kapha Dosh* which in turn gets lodged in the *Dhamani* causing stiffness (*Stabdhat*) of the body similar to that of *Danda* (bamboo). Hence the treatment principle will be initially *Vata-Kaphahara* followed by *Samanya Vata Vyadhi Chikitsa*.

#### Vital data

- Age : 46 years
- Sex : Male
- Religion : Hindu
- Education : Graduate
- Occupation : Sales Marketing
- Marital status : Married
- Socio-economic status : Upper Middle class

#### Presenting concerns

**Table 1: Complaints with duration**

SN	Complaints	Duration
1.	Stiffness of back from hip to neck	3 years
2.	Restricted forward and sideward bending	
3.	Pain in right arm with restricted movements	
4.	Pricking pain and swelling over nape of the neck	
6.	Swelling over right shoulder and right side of face	

#### Past history

- Low back ache (2004-2012) - Treated conservatively with steroids, NSAIDs, homeopathy and folk medications.
- Not a known case of Hypertension or diabetes mellitus.
- No h/o fall or trauma.

#### Clinical findings

**Gait:** Antalgic gait

#### Inspection

##### Cervical spine, Upper limb and face

- Protracted cervical spine - forward head posture.
- Swelling present over nape of neck, right shoulder and right side of face
- No Scar marks

##### Lumbar spine

- Loss of lumbar lordosis
- Swelling - absent
- No scar marks

#### Palpation

##### Cervical spine

Tenderness over C3-C4, C4-C5, C5-C6 vertebrae

##### Lumbar spine

Tenderness over L3-L4, L4-L5, L5-S1

#### Range of movements:

Cervical spine	BT	AT
Extension	0 Degree	0 Degree
Flexion	0 Degree	0 Degree
Lateral bending	0 Degree	0 Degree
Lumbar Spine	BT	AT
Forward bending	0 Degree	90 Degree
Backward extension	0 Degree	25 Degree
Lateral bending	0 Degree	10 Degree
Shoulder joint	BT	AT
Abduction	Right - restricted, unable to lift. Left - 170 degree,	Right - 170 degree Left - 170 degree
Adduction	Right - 10 degree Left - 30 degree	Right - 30 degree Left - 30 degree

Internal rotation	Right- restricted Left- 90 degree,	Right- 80degree Left- 90 degree
External rotation	Right- restricted Left- 90 degree	Right- 70 degree Left- 90 degree
<b>Hip joint</b>	<b>BT</b>	<b>AT</b>
Flexion	Right - 100 degree Left - 100 degree	Right - 100 degree Left - 100 degree
Extension	Right - 15 degree Left - 15 degree	Right - 15 degree Left - 15 degree
External rotation	Right - 50 degree Left - 45 degree	Right - 50 degree Left - 45 degree
Internal rotation	Right - 40 degree Left - 40 degree	Right - 40 degree Left - 40 degree
SLR	Negative b/l	Negative b/l
Bragards	Negative b/l	Negative b/l
Fabers	Negative b/l	Negative b/l
Lateral flexion test	Positive b/l	Positive b/l
Gaenslens test	Negative b/l	Negative b/l
Pelvic compression test	Negative b/l	Negative b/l
Fleche test	Positive	Positive
Schobers- Positive	Positive	Negative

**Roga Pareeksha****Aharaja Nidana**

- *Ati Madhura* and *Katu Rasa Sevana*
- Excessive intake of fried items
- *Ati Madyapana* (10-12 bottles of beer once a week)

**Viharaja Nidana**

- *Ati Sheeta Vata* (works at air conditioned environment)
- *Ati Yana* (travelling long distances- 150-180 kms/day on bike)
- *Ati Bhara Vahana* (Lifting heavy objects)
- *Prajagara* (sleeps after midnight 12 or 1 am)
- *Chinta* (stress at work place)

**Poorvaroopo: Avyakta****Roopa**

- Stiffness of back from hip to neck
- Restricted forward and sideward bending
- Pain in right upper limb with restricted movements
- Pricking pain and swelling over nape of the neck
- Swelling over right shoulder and right side of face

**Samprapti**

*Nidana Sevana (Vata and Kapha Prakopaka Nidanas) → Prakopa of Vata and Kapha Dosha → Prasara in Sarva Sharira through Dhamani → Sthana Samshraya in Asthi and Majja → causes Shotha, Shoola, Stabdhatata of Greeva, Kati, Amsa Pradesha → makes the spine stiff like a bamboo (Danda) → Dandaapatana*

**Investigations**

- MRI - Cervical and Lumbo Sacral Spine (07/05/15)
- Exaggerated normal cervical lordosis.
- Calcification of anterior and posterior longitudinal ligament noted with associated squaring of visualized vertebrae.
- Marginal syndesmophytes are seen in between the vertebrae
- Bamboo spine appearance of spine was found.
- Features are suggestive of Ankylosing Spondylitis.

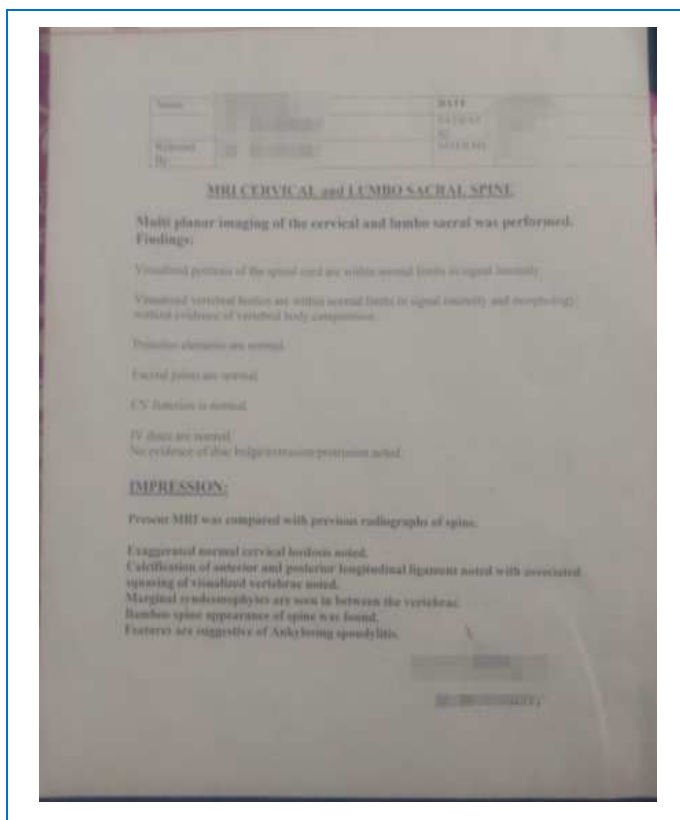


Fig. 1: MRI - Cervical and Lumbo Sacral spine report

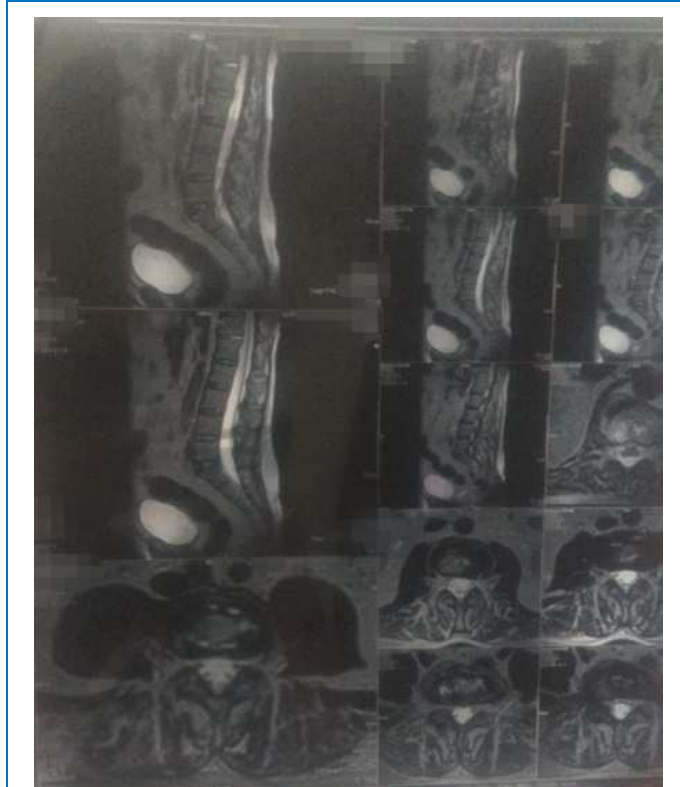


Fig. 2: MRI - Cervical and Lumbo Sacral spine film

**Diagnosis:** Danda Apatanaka

**TREATMENT**

**Table 2: Treatment procedures and oral medications with dosage and duration**

SN	Treatment	Duration
<b>Oral medications</b>		
1.	Tab. Dhanwantaram 1 tid bf	12 days
2.	Tab. Shadharana Yoga 1 bd Af	10 days
3.	Tablet Anuloma DS 1 h.s.	10 days
<b>Therapeutic procedures</b>		
5.	Sadyovirechana with Gandharva Hastadi Taila 70 ml + Amrita sara 50ml	2nd day
6.	Sarvanga Abhyanga with Pariseka Taila + Bhaspa Sweda	10 days
7.	Greeva Basti with Dhanwantaram + Nirgundi Taila	10 days
8.	Sthanika Abhyanga over Greeva with Pancha Tikta Guggulu Ghrita	10 days
9.	Mustadi Yapana Basti in Kala Basti schedule <b>Niruha Basti</b> - Mustadi Yapana Basti Kwatha - 450ml <ul style="list-style-type: none"> <li>▪ Ksheerabala taila- 60 ml</li> <li>▪ Saindhava- 8 gm</li> <li>▪ Honey- 40 ml</li> <li>▪ Mamsa rasa- 100 ml</li> <li>▪ Shatapushpa kalka- 30 gm</li> </ul> <b>Anuvasana Basti</b> Ksheerbala Taila - 30ml Sukumara Ghrita - 30ml Vasa - 15 ml Majja - 15ml	6 Niruha Basti and 9 Anuvasana Basti

**Assessment**

**BASFI** - Bath Ankylosing spondylitis functional index is a scale to determine the degree of functional limitation.

**NRS** - Numeric rating scale is used to assess the intensity of pain and stiffness.

**BASDAI** - Bath Ankylosing spondylitis disease activity index is a scale to assess the disease activity.

Domain	Instrument	BT	AT	% relief
Function	BASFI	7	3.1	55.71
Pain	NRS	9	0	100
Stiffness	NRS	7	2	71.42
Fatigue	BASDAI	7.4	2	72.97
Affected peripheral joint	Peripheral joint count	3	0	100

**DISCUSSION**

The medicines prescribed above are mainly indicated in *Vata Vyadhis* in the classics. Initially, for *Dipana* and *Amapachana*, *Dhanwantaram Vati* and *Shaddharana Yoga* was given, *Anuloma DS* was advised for *Vata Anulomana*. Later *Sadyovirechana* was given with *Gandharvahastadi Taila* and *Amrita Sara* for *Kostha Suddhi*. *Mustadi Yapana Basti* was planned in modified *Kaala Basti* schedule as it is *Sadyo Bala Vardhaka*, *Mamsa Vardhaka* and acts as a *Rasayana*. For *Anuvasana Basti Maha Sneha* was used as it is best for *Sandhi Asthi Ruja* and helps in strengthening the *Asthi* and *Majja Dhatus*. *Abhyanga* was done with *Pariseka Taila*, as it is *Vata Shamaka*, *Balya* and

*Shrama Hara*. It was followed by *Bhaspa Sweda* with *Dashamoola Kwatha*, which is *Vata Kapha Shamaka*, *Shotha Hara*, reduces *Shoola* and *Sthabdata*. *Greeva Basti* was done with *Dhanwantara* and *Nirgundi Taila* which are *Shoola Hara* and *Asthi Dhatu Poshaka*.

**CONCLUSION**

*Dipana*, *Pachana*, *Vata-Kapha Shamana*, *Asthi-Majja Shodhana* and *Poshana* are the main treatment modalities in this case. Hence Ankylosing spondylitis can be effectively managed by Ayurvedic treatment modalities based on proper assessment of the involved *Dosha* and *Dhatu*.

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