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MANAGEMENT OF ADULT SCOLIOSIS THROUGH AYURVEDA – A CASE REPORT

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ABSTRACT

Adult scoliosis is defined as a spinal deformity in a skeletally mature patient. Adult scoliosis can be separated into four major groups. Back pain associated with degenerative scoliosis usually begins gradually and is linked with activity. The curvature of the spine in this form of scoliosis is often relatively minor. The treatment is tailored to the specific symptomatology of the patient by using Physiotherapy, manipulation, and needling can be used to treat pain, together with spinal bracing. Scoliosis-specific exercises should be prescribed and corrective postures should be encouraged during daily activities to improve the sagittal and coronal spinal imbalances. Surgery may only be advised when conservative methods fail to alleviate pain associated with the condition. Hence controversy remains over the role of surgical intervention in patients with this disease.

Aim: To comprehend the effectiveness of the *Agnikarm* management (Thermal Cautery) in Scoliosis.

Material and method: A 48-year-old patient comes in *Kayachikitsa* OPD of Parul Ayurveda Hospital with c/o pain in calf muscle with mild deviation of spine along with asymmetrical gait

and difficulty in walking due to pain since 7 to 8 months and was advised to admit in KC IPD. Patient was given *panchkarma* treatment with internal medicine but he didn't get relief in pain. then *agnikarma* was planned.

Observation and result: SLR and Femoral nerve stretch test was negative after doing *agnikarma* along with radiological changes shows changes in spinal curvature and reduction in WOMAC score from 30.20 % to 13.54 %.

Conclusion: The present case study revealed that among all *Ayuveda* treatments like *panchkarma* and internal medicine, *Agnikarma* provides good relief in pain management.

Contribution: *Agnikarma* can contribute to improve lifestyle of patient suffering from neurological and musculoskeletal disorder.

Keywords: Scoliosis, *Agnikarma*, Thermal cautery, Ayurvedic management, *anushashtra karma*

INTRODUCTION

Adult scoliosis is described as a spinal deformity in a skeletally mature patient. It may be categorized into 4 main groups as Primary degenerative scoliosis, Idiopathic adolescent scoliosis, Secondary person curves like idiopathic, neuromuscular, congenital scoliosis, asymmetrical anomalies on the lumbo-sacral junction and metabolic bone ailment (commonly osteoporosis) mixed with uneven arthritic ailment and/or Vertebral fractures. The onset of back pain linked to degenerative scoliosis typically develops gradually and is associated with movement. The treatment is tailored to the specific symptomatology of the patient by using Physiotherapy, manipulation, and needling. Surgery is advised when conservative approaches prove ineffective in alleviating pain associated with the condition. Hence controversy remains over the role of surgical intervention in patients with this disease **[1]**. In ayurveda, adult scoliosis can be correlated with *vaat vyadhi*, in specific we can correlate it with *snayugat vaat* as it shows anatomical deformity of spine. In Ayurveda, Basti is considered the best *chikitsa* for *vaat shaman* **[2]**. Other than that, *agnikarma* can play a vital role in pain management as explained in the classics.

Case report:

- A 48-year-old patient, farmer by occupation came to *Kayachikitsa* OPD of Parul Ayurveda Hospital with c/o pain in calf muscle with mild deviation of spine along with asymmetrical gait and difficulty in walking due to pain since 7 to 8 months.

- He *was advised to admit in kayachikitsa IPD of* Parul Ayurved Hospital, Gujarat.

History of present illness:

Patient was apparently normal before 7 to 8 months. While working in the farm, he injured his leg due to a fall in pit and since then gradually, he started developing pain in his back along with deviation of spine. Experiencing persistent pain, he sought relief by consuming various painkiller medications prescribed by local physicians. However, as the pain relief was temporary, he sought further treatment at our hospital.

Surgical History: There was no history of any surgery done till date.

Medical History: Irregular use of pain killers

Family History: All family members of patient were reported to be healthy.

Ashtavidh Pariksha

- ***Nadi:*** *Vaat-pitta pradhan*
- ***Mutra:*** 6-7 times / day; 1-2 times / night
- ***Mal:*** *Prakrit*
- ***Jihwa:*** *Alpa-lipta*
- ***Shabda:*** *Prakrit*
- ***Sparsh:*** *Prakrit*
- ***Druk:*** *Prakrit*
- ***Akruti:*** *Prakrit*

Diagnosis: [Table 1]

Table 1

Test name		Before *Agnikarma*	
Femoral Nerve Stretch Test [3]	Right leg	Positive	
	Left leg	Negative	
SLR [4]	Right leg	Positive	At 60 degree
	Left leg	Negative	
Bragard's sign [5]	Right leg	Positive	
	Left leg	Negative	

Table 2

Mid-Calf muscle circumference	Before treatment
Right	10.8 inches
Left	11 inches

On palpation on lower back there was pain in L4-L5 region

Radiological Investigation: X Ray before treatment

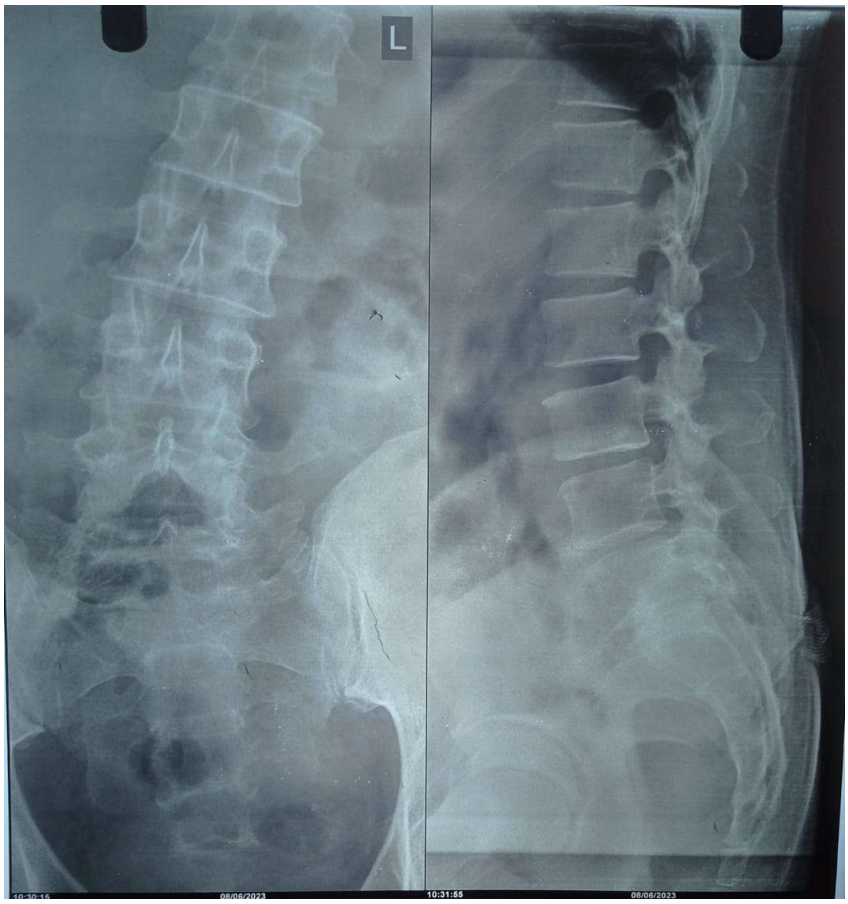

IMAGE 1: X Ray Lower Back PA and Lateral View-Before Treatment

IMAGE 2: Curvature of Spine-Before Treatment

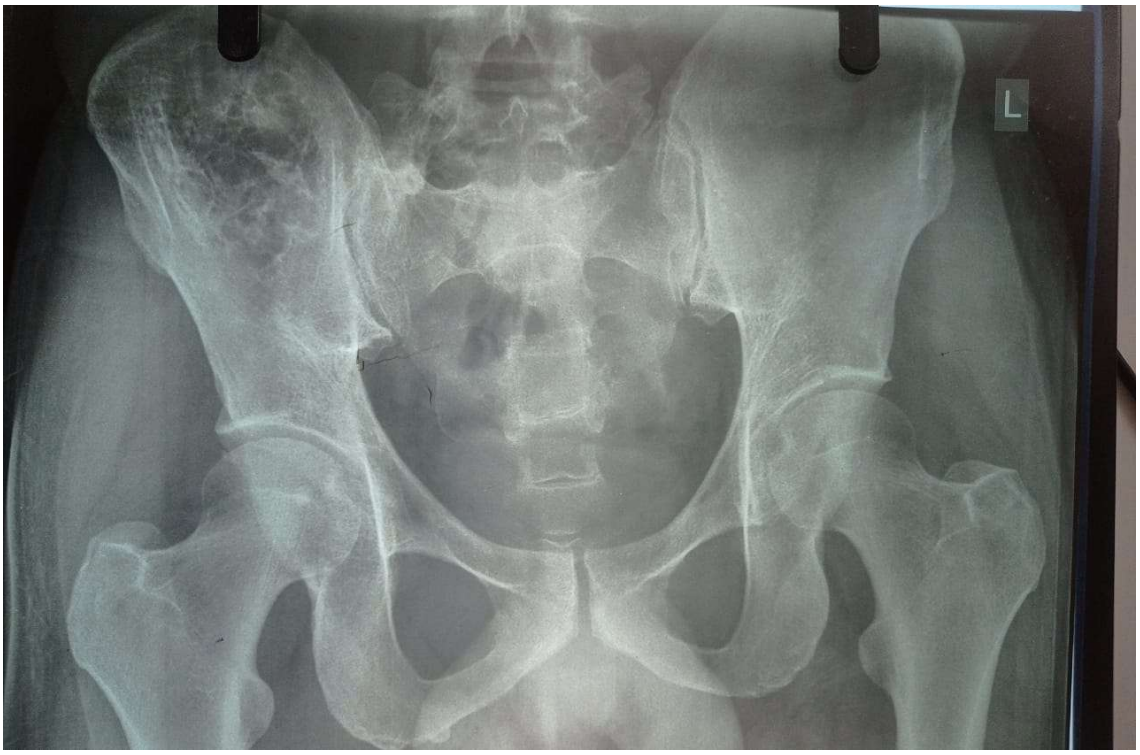

IMAGE 3-X Ray Hip-Before Treatment

MANAGEMENT:

Patient was given *Panchkarma* therapy along with internal medication and Physiotherapy.

Table 3

S. No.	Formulation	Dose, Frequency	Adjuvant	Duration
Procedures				
1.	***Sarvang abhyanga*** **(Whole body massage) with** ***Sahcharadi taila*** **Followed by** ***Mrudu bashpa Sweda***	**Once in a day**	**----**	**45 mins**
2.	***Matra basti*** ***(Mahanarayan tailam)***	**40 ml; Once in a day**	**----**	**----**
Therapeutic regime				
1.	***Cap. Rheumaras (Shallaki, Ashwagandha, Maharasnadi ghan)***	**1 capsule; twice a day (After food)**	**Water**	**Daily for 15 days**
2.	***Rasnasaptak + balamool kashay***	**100 ml twice a day (Before food)**	**----**	**Daily for 15 days**
3.	***Ashwagandha + Bala Churna***	**1 table spoon, three times a day, (After food)**	**Luke warm water**	**Daily for 15 days**

After doing *Panchkarma* treatment, Internal medicines and Physiotherapy patient didn't get relief in pain.

Hence *Agnikarma* was planned.

Before doing *agnikarma* WOMAC scoring was done.

Agnikarma **(thermal cautery)*:***

Agnikarma was given in single sitting.

Material:

- *Panchdhatu shalaka* 7 cm long, 2mm width, 4mm width at the end.
- Forceps: to handle *shalaka*

- Stove: to give heat to *shalaka*
- Betadine: to clean the local area
- Ghee: application on local area
- Cotton: for cleansing the local area and for application of ghee

IMAGE 4: ***Panchdhatu Shalaka***

Procedure of *Agnikarma:*

- The procedure performed in three stages as *purva karma* (pre – procedures), *Pradhan karma* (main procedures), *paschat karma* (post – procedures) mentioned by *Acharya Shushrut*.

Purva Karma*: snigdha picchila annapan* (rice with ghee) was given prior to the procedure **[6]**.

- Site of *agnikarma* was cleaned with the help of betadine and wiped with dry sterilized cotton.
- *Panchdhatu shalaka* was heated up to red hot, marking of the articulating tender area has been done and ghee has been applied to the marked area which is around L4, L5 area.

Pradhan Karma: patient was asked to sit on the stool, exposing her lower back. Regardless of a specific site, *agnikarma* was done at the maximum tender site affected at the lower back. *panchdhatu shalaka* was given heat until it became red hot and applied to most tender areas with the help of forceps in *bindu* (dot) form **[7]**, and *samyak twak dagdha lakshana* (appropriate burn symptoms) was achieved **[8]**.

Paschat Karma: Application of ghee has been done again to relieve burning sensation. patient was observed for 30 mins after procedure

Pain was measured on the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scoring before and after treatment. there is noticeable improvement in symptoms.

in WOMAC rating of activities in each category according to the following scale of difficulty **[9]**.

0 – none

1 – Slight

2 – moderate

3 – very

4 – Extremely

Below **Table 4** shows Womac Score Before and After Treatment.

Table 4

	PAIN	Before *Agnikarma*	After *Agnikarma*
1	Walking	2	1
2	Stair Climbing	2	1
3	Nocturnal	0	0
4	Rest	1	0
5	Weight bearing	0	0
	Stiffness		
1	Morning Stiffness	0	0
2	Stiffness occurring later in day	1	0
	Physical function		
1	Descending stairs	1	0
2	Ascending stairs	2	1
3	Rising from sitting	1	0
4	Standing	1	0
5	Bending on floor	2	1
6	Walking on flat surface	2	1
7	Getting in / out of car	1	1
8	Going Shopping	1	1
9	Putting on socks	1	1
10	Lying in bed	0	0
11	Taking of socks	1	1
12	Rising from bed	2	1
13	Getting on/off bath	2	0
14	Sitting	1	0
15	Getting on/off toilet	2	0
16	Heavy domestic duty	3	2
17	Light domestic duty	1	1
	Total	30/96 31.25 %	13/96 13.54 %

After doing *agnikarma* SLR, Bragard's sign and Femoral nerve stretch test becomes negative.

After doing 15 days course of treatment there's also change in mid-calf circumference.

Table 5

Mid-calf Circumference	After Treatment
Right	10.9 inches
Left	11.5 inches

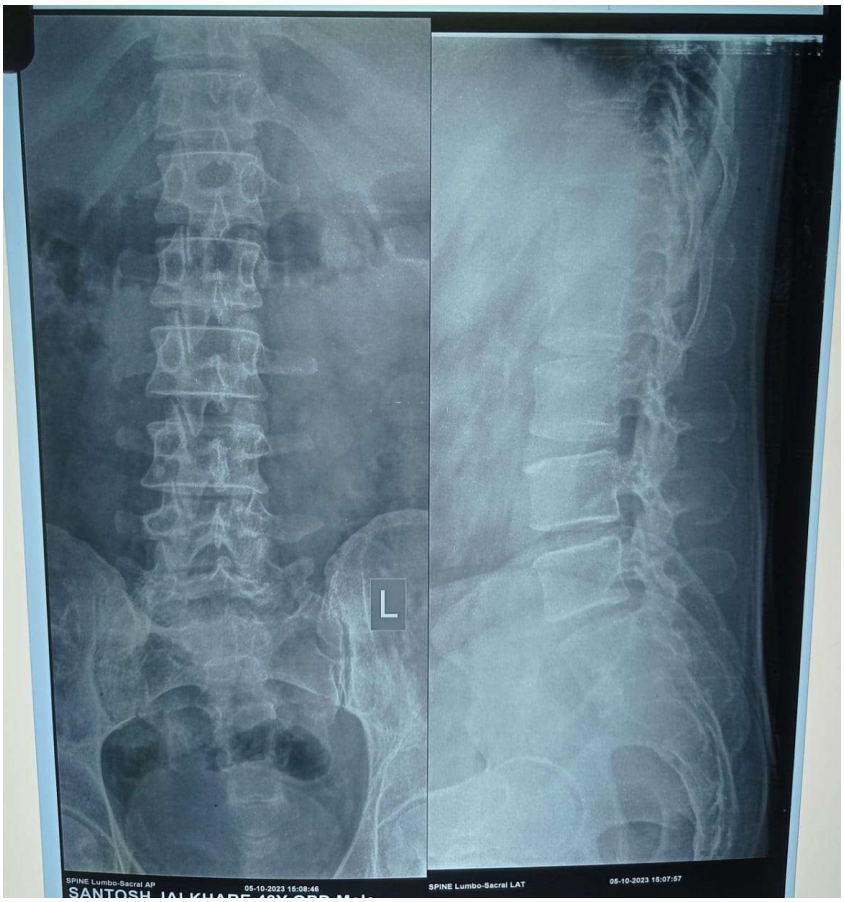

Image 5: Xray lower back PA and Lateral view – After treatment

DISCUSSION:

In ayurveda, adult scoliosis can be correlated with *Snayugat vaat* mentioned by A*charya Charaka* on basis of its symptoms [10]. After *Agnikarma* there is change in WOMAC score from 31.25% to 13.54 %. There is 56.67 % relief in pain through single sitting of *agnikarma*. Femoral nerve stretch test, SLR, Bragard's sign became negative in right leg after *agnikarma.* Following a 15-day course of treatment, there has been a noticeable alteration in the circumference of the mid-calf. *Basti* treatment is been mentioned as *ardh-Chikitsa* (Half Treatment) in *shashtras* and also consider as best as *vaat hara. Abhyang* with *Sahcharadi tailam* **[11]** is indicated for *shosha* (emaciation) and *vaat vikaras* and herbs like *shallaki, bala, rasna, Ashwagandha* **[12]** which was given internally will promote the growth of *dhatus* and pacify the vaata. Hence *Snayugat vikara* is challenging to treat and patient's enduring pain has prompted the use of *anushashtra karma* for assistance. The patient's gait and posture return to normalcy following the administration of *Agnikarma*. There is change in deviation of spine in radiological investigation. *Agnikarma* can block the pathway of pain in the following route of the

nerve from affected area. It removes blockage of channels, aka *srotovrodha,* which increases the circulation of dhatus and the metabolism of dhatu at the local sites. It will act on the *shita guna of vayu as a vishesha* (opposite) factor and pacify other features of *vayu and kapha* disease. Under the above action, the disease and associated symptoms of the disease treated by *Agnikarma* are relieved and *sira, snayu, sandhi, and asthi* (veins, ligaments, joints, and bones) become stable **[13]**. The pain threshold varies from person to person, and the reaction to pain is highly variable. There is a natural inbuilt system of the brain that suppresses the input of pain signals called the "analgesia system". There are neurotransmitters like enkephalin and serotonin released by the analgesia system. Enkephalins inhibit pre- and post-synapse synaptic C fibres and Aδ-fibres when they synapse in dorsal horns, thus blocking horns and thus blocking the pain signals at initial entry into the spinal cord. The pain signals entering through the peripheral nerves are almost totally subdued by the activation of the analgesia system by neurological signals entering the periaqueductal grey and periventricular areas or by the deactivation of pain pathways by analgesics. Large-type Aß sensory fibres that are involved in transmitting touch sensations have the ability to reduce the transmission of pain sensations from the same region. As a result, when stimulated concurrently, pain is suppressed. This is the theory behind and foundation for the use of liniments, massage, acupuncture, and acupressure to relieve pain **[14]**. Hence *agnikarma* may stimulate the analgesic system and pain sensation in body which is in articulating form can be manage. Superiority of *agnikarma* is indicated as once the disease treated with *agnikarma* never recurs again **[15]**. When used with *panchdhatu shalaka* it will give effective and long-lasting results which is convenient for the patient and also cost-effective as one study of Comparative temperature study of different *dahanupkaran* (Instruments that are used for burns) shows higher maintenance of temperature in *panchdhatu shalaka* among metallic *dahanopkaran* **[16]**. *In the current case, the patient can now comfortably bend to the floor and experience a reduction in stiffness after undergoing Agnikarma.*

CONCLUSION

Agnikarma proves to be an effective approach in managing pain associated with the musculoskeletal system. Among *Agnikarmas, Bindu Agnikarma* is frequently the initial preference for pain management. To enhance our comprehension of the mechanism, it is advisable to include more cases of adult scoliosis in research. In the ongoing case discussion, it is suggested that,

in instances of bone degeneration and muscular atrophy, a combination of *Brumhan Chikitsa* and *Agnikarma* should be employed. Therefore, a well-thought-out blend of therapies can be beneficial in addressing conditions like scoliosis. To gain a comprehensive understanding of the mechanism, there should be endeavors to document and refine procedures such as *Agnikarma.*

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