



**AYURVEDIC MANAGEMENT OF CERVICAL SPONDYLOTIC MYELOPATHY:
REPORT OF TWO CASES WITH REVIEW OF LITERATURE**

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ABSTRACT

Cervical Spondylotic Myelopathy (CSM) is a chronic, progressive, degenerative disease of the cervical spine which impairs patient's functionality and induces suffering with pain. Symptoms often develop insidiously and are characterized by neck stiffness, arm pain, numbness and weakness of the hands and legs. Here we are reporting two cases of CSM; one came with post surgical sequelae of anterior cervical decompression surgery and other opted Ayurvedic treatment to avoid surgery. Total two assessments were carried out before and after treatment. Criteria of assessment were based on Myelopathy Disability Index (MDI). Both the patients were diagnosed as 'Sarvanga vata' and panchakarma procedures like udwartana, patra pottali pinda sweda and vasti along with internal medicines were prescribed for the period of one month. Both the patients got good improvement on MDI (in case I – 55.5% and in case II – 33.3%). Ayurvedic diagnosis of Sarvanga vata or Avrita vata is suitable for CSM patients. Ayurvedic panchakarma procedures like vasti along with internal medicines are found to be useful in the management of post surgical sequelae of anterior cervical decompression surgery in CSM patients and also to postpone the surgery to whom it is indicated.

Key Words: Cervical Spondylotic Myelopathy, CSM, Sarvanga vata, Ayurveda, Myelopathy disability index, Panchakarma;

INTRODUCTION

Cervical Spondylotic Myelopathy (CSM) is a chronic, progressive, degenerative disease of the cervical spine which impairs patient's functionality and induces suffering with pain¹. CSM is the most common cause of spinal cord dysfunction in older persons. The ageing process results in degenerative changes in the cervical spine, which in advanced stages, can cause compression of the spinal cord. Symptoms often develop insidiously and are characterized by neck stiffness, arm pain, numbness and weakness of the hands and legs. Diagnosis is confirmed by narrowing of the spinal canal caused by osteophytes, herniated discs and ligamentum flavum hypertrophy. Currently surgical decompression is appropriate for many symptomatic patients².

There is no clarity regarding the ayurvedic aspect of CSM in regard to its Ayurvedic diagnosis and management protocol. As per Ayurveda, each patient of CSM needs an individualized approach as the etiology and pathology are variable from patient to patient. Here we are reporting two cases of CSM diagnosed as 'Sarvanga vata'³ according to Ayurveda. Written informed consent was obtained from both the patient's for the publication of this case report.

DESCRIPTION OF CASES

Case I

A 62 year old male patient came to our care (23.08.2014) with post surgical sequelae of anterior cervical decompression and fusion. Patient had spasticity of all four limbs along with pain, weakness, muscle wasting, sensory disturbances and heaviness. Patient was diagnosed as having CSM and operated for the same. After surgery (15.06.2015), the complaints got aggravated and patient came for Ayurvedic treatment for relief. At the time

of examination patient was unable to sit, stand, walk, climb, bend and do his regular activities without support. Weakness, numbness, tremors and disturbances in fine finger movements were found. Hyper tonicity was observed in all four limbs. Gait disturbances (poor balance), parasthesia, and abnormal, brisk deep tendon reflexes were found. Patient had pedal edema and undergone bypass surgery previously. Patient also has been suffering with Diabetes mellitus and hypertension for which he has been taking allopathic medication. Patient also has been taking muscle relaxants, non steroidal anti inflammatory drugs, cortico steroids and multi vitamin preparations.

MRI (Magnetic Resonance Imaging) of cervical spine revealed, 'mild spondylosis, mild canal stenosis at C₃ to C₆ level and disc lesion at C₃ – C₄, C₅ – C₆ & C₆ – C₇ levels' (09.06.2015). MRI of cervical spine after undergoing surgery (anterior cervical decompression with fusion) revealed, 'post operative changes at C₅ – C₆ level with increase in cervical lordosis, cervico thoracic scoliosis with convexity towards left side, disc osteophyte complexes, disc desiccations, posterior disc bulge, cervical cord indented with extensive cord signal changes for a length of 5.6 cm at C₄ – C₅ – C₆ - C₇ levels, reduced dimensions of central spinal canal and narrowed neural foramina indenting the exiting and traversing nerve roots' (14.07.2015). Hematological, biochemical and urine routine & microscopic reports were within normal limits. Colour Doppler ECHO cardiography revealed, 'left ventricular diastolic dysfunction grade I, sclerotic aortic valve and trivial tricuspid regurgitation' (10.06.2015).

Case II

A 65 year old male patient, diagnosed case of cervical myelopathy, came to our care (01.10.2015) with the complaints of difficulty in standing and walking, poor balance, weakness, tingling and numbness in all four limbs, tremors of both hands, pain in low back region and at both knee joints. Initially patient

has noticed weakness, tingling and numbness in both upper limbs along with restricted movements of the neck (since 2013). Later the patient got low back ache and bilateral knee joint pain (since 2014). Patient has been suffering with Diabetes mellitus and Essential hypertension. MRI (Magnetic Resonance Imaging) spinal cord revealed cervical and lumbar canal stenosis with protrusion of discs at C₃-C₄, C₆-C₇, L₃-L₄, L₅-S₁ and degenerative changes at various levels of spine. Patient was diagnosed as having cervical and lumbar spondylosis with bilateral knee Osteoarthritis and got advised for surgery. Patient took allopathic treatment and physiotherapy. Finally patient came to our care for Ayurvedic panchakarma therapy to avoid surgery and to get relief from pain.

Patient was conscious, oriented and came by wheel chair. Resting muscle tone increased in both upper and lower limbs (Right hand > Left hand). Tremors were observed in both hands. Tendon reflexes were brisk. Muscle wasting was found along with loss of sensation to vibration and pin prick in upper limbs. Fine finger movements were absent. Patient was unable to stand, walk and do his routine activities without support. Movements got restricted at neck and lumbar region. Swelling was observed in both knee joints. Bilateral pedal edema was also found. Patient has been taking anti hypertensive, hypoglycemic and non steroidal anti inflammatory drugs. There was no urine and fecal incontinence. USG abdomen (11.10.2015) revealed 5 × 4 cm calcification in segment VI of liver, which was due to earlier drained liver abscess. Fasting blood sugar was 110 mg / dl and blood pressure was 108/68 mm of Hg (01.10.2015).

Diagnosis, Assessment & Treatment

The diagnosis of CSM depends to a large extent on the patient's history and clinical findings. The diagnosis was confirmed by radiological findings i.e., MRI of cervical spine demonstrating spinal canal stenosis with nerve root compression. Total two assessments were carried out on the first day of treatment and at the time of discharge. A criterion of assessment was based on the scoring of 'Myelopathy Disability Index (MDI)'⁴. MDI is a modification of the Stanford health assessment questionnaire which contains 10 questions scored on a scale from 0 to 3, with a total possible score ranging from 0 to 30. Higher scores indicate increased disability⁵. Ten items of MDI include, rising, eating, walking, personal hygiene, hand grip and activities. The final score is expressed as a percentage⁴.

The patients were diagnosed as having 'Sarvanga vata' according to Ayurveda and treated initially with rookshana procedure like udwartana (powder massage) followed by senhana (oleation), swedana (sudation) and vasti (enema) along with internal medicines (Table 1).

DISCUSSION

CSM is a clinical diagnosis that may involve lower extremities with gait disturbances, weakness of the legs, and spasticity. In upper extremities, lower motor neuron findings like, loss of strength, atrophy and difficulties in fine movements of the fingers. As CSM has no single pathognomonic sign or symptom, clinical findings vary from patient to patient⁶. Degenerative changes affecting the inter vertebral discs, vertebrae, facet joints, and ligamentous structures encroach on the cervical spinal canal and damage the spinal cord, especially in patients with a congenitally small cervical canal. The effectiveness of conservative treatment is unproven⁷. Even though muscle strength improves after anterior cervical decompression surgery, some patients suffer with persistent spasticity of lower limbs and

residual weakness and sensory loss in upper extremities⁸. Some of the authors reported improvement in neurological function in many of their patients, others presented reports of worsening functions or unchanged condition after spinal decompression in CSM patients. Still others were in doubt about the efficacy of surgery in changing the clinical course of CSM⁹.

Both the patients showed vata prakopa lakshana's¹⁰ like, kaarshya (emaciation / muscle atrophy of hands), gaatra kampa (tremors of both hands), sphurana (fasciculations), ushnakaamita (likes hot things), nidra nasha (sleeplessness), balopaghata (fatigue), mala sanga (constipation), aadhmana (abdominal bloating), aatopa (borborygmi) and dainya (depression); based on these lakshana's initial diagnosis of 'vata vyadhi' was made. There was diagnostic dilemma while making the differential diagnosis between the conditions like, sarvaanga vata and avrita vata. Stabdhata (rigidity/spasticity), agni maandya (loss of digestive capacity), vibandha, ajeerna (indigestion) and gamana kricchrata / gati vaishmya (difficulty in walking or movements) etc; avrita vata lakshana's¹¹ were seen in both of the patients. As patient had the vataja lakshana's like rigidity / spasticity, pain, tingling, numbness in all four limbs, the diagnosis of 'sarvaanga vata'³ was finalized.

As both the patients are diabetic, overweight, having pedal edema and swelling at both knee joints, initially udwartana (powder massage) was started with yava kola kuluthadi choornam. After doing udwartana, both the patients felt lightness in body, reduced pedal edema, reduced pain & swelling at both knee joints. After attaining niraamavastha by udwartana, snehana and swedana by patra pottali pinda sweda (massage with bolus prepared by medicinal leaves and powders) was started by using karpooradi tailam. Along with patra pottali pinda sweda & bashpa sweda (steam bath), Kala vasti schedule was prescribed. Each Kala vasti schedule contains sixteen vasti's, i.e., ten anuvasana vasti's (oil enema) and six niruha vasti's (decoction enema). Kala vasti schedule starts with anuvasana vasti followed by twelve vasti's (six niruha vasti's and six anuvasana vasti's alternatively) and ends with three anuvasana vasti's. Erandamoola / Rasna saptaka kashaya was selected for niruha vasti and Pippalyadi anuvasana oid / Dhanwantaram oil was selected for anuvasana vasti. t the time of discharge, Panch tiktaka ghrita was prescribed as shamana snehapana along with other internal medicines like Ayaskriti and Aadaree sahacharadi kashayam (Table 1).

In case I, the baseline score (before starting treatment) on MDI was '18' and after one month (at the time of discharge) it was reduced to '10' i.e., there was '55.5%' of improvement occurred. Good improvement was noticed in the dimensions like, 'Rising', 'Eating', 'Walking', 'Hand grip' and 'Activities'. The patient was unable to sit, stand, walk, climb and hold the objects with hands without support before starting treatment but after completion of one month, he was able to do all of these activities with minimal or no support. The spasticity of the lower and upper limbs, pedal edema, pain and swelling at knee joints, body weight and tremors of both hands were reduced after one month of treatment. Blood sugar levels and blood pressure came to normal. All the allopathic medicines which the patient has been taking (non steroidal anti inflammatory drugs, muscle relaxants, steroids) were gradually tapered and stopped. Patient felt lightness in the body got relief of constipation. Tingling, numbness in all four limbs and early morning stiffness were not improved.

In case II, the baseline score (before starting treatment) on MDI was '30' and after one month (at the time of discharge) it was

reduced to '20' i.e., there was '33.3%' of improvement found. Good improvement was found in 'Hand grip'. The patient got advice for surgery but he didn't wish to undergo for surgery and opted Ayurvedic treatment to avoid it. Patient has been taking allopathic medicines (non steroidal anti inflammatory drugs, muscle relaxants, steroids), which were gradually tapered and stopped. Pedal edema, pain and swelling at knee joints, body

weight, appetite, sleep, stiffness of all four limbs and tremors of both hands were reduced after one month of treatment. Blood sugar levels and blood pressure came to normal. Patient felt lightness in the body got relief of constipation. Weakness of lower limbs, low back pain, tingling, numbness in all four limbs and early morning stiffness were not improved.

Table 1: Intervention

Treatment for case – I	
16.08.2015 to 31.08.2015	Udwartana with Kola kuluthadi choornam
01.09.2015 to 16.09.2015 (Kaala vasti schedule of 16 days)	1. Patra pottali pinda sweda with Karpooradi tailam
	2. Bashpa sweda (in steam chamber)
	3. Niruha vasti (A. Saindhava lavana - 6 gm B. Madhu - 100 ml C. Dhanwantaram tailam - 200 ml D. Hingu vachadi kalkam - 25 gm E. Rasna saptaka kwatha - 250 ml F. Erandamoola kwatha - 250 ml F. Dhanyamlam - 100 ml) (or)
	4. Anuvasana vasti with Pippalyadi anuvasana tailam – 100 ml
17.09.2015 to 31.10.2015	Panchatikta ghritam – 10 ml twice a day, before food with hot water
Treatment for case – II	
01.10.2015 to 04.10.2015	Udwartana with Kola kuluthadi choornam
05.10.2015 to 20.10.2015 (Kaala vasti schedule of 16 days)	1. Patra pottali pinda sweda with Karpooradi tailam
	2. Bashpa sweda (in steam chamber)
	3. Niruha vasti (A. Saindhava lavana - 6 gm B. Madhu - 100 ml C. Sahacharadi tailam - 200 ml D. Hingu vachadi kalkam - 25 gm E. Rasna saptaka kwatha - 500 ml F. Dhanyamlam - 100 ml) (or)
	4. Anuvasana vasti with Dhanwantaram tailam – 100 ml
21.10.2015 to 31.10.2015	1. Aadaree sahacharadi kashayam – 15 ml, twice a day, before food with water 2. Ayaskriti – 20 ml, twice a day, after food with equal quantity of water

CONCLUSION

Ayurvedic diagnosis of Sarvanga vata or Avrita vata is suitable for CSM patients. Ayurvedic panchakarma procedures along with internal medicines are found to be useful in the management of post surgical sequelae of anterior cervical decompression surgery in CSM patients and also to postpone the surgery for whom it is indicated. Vasti seems to be beneficial procedure in the management of CSM. Further studies are required to substantiate the present study findings.

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REFERENCES

1. zimi P, Shahzadi S, Benzel E C, Montazari A. Functional evaluation using the modified Japanese orthopaedic Association Score (mJOA) for cervical spondylotic myelopathy by Age, Gender, and type of disease. World Spinal Column Journal 2013; 4: 1-5.
2. oung W F. Cervical spondylotic myelopathy: A common cause of spinal cord dysfunction in older persons. American family physician 2000; 62: 1064-1070.
3. haraka, Charaka samhita, Chikitsa sthana, Vata vyaadhi chikitsa adhyaya, 28/199-216, edited by Vaidya Jadavji trikamji Acharya. Varanasi: Chaukhamba surabharati prakashan; 2008. p. 625-626.
4. asey A T, Bland J M, Crockard H A. Development of a functional scoring system for rheumatoid arthritis patients with cervical myelopathy. Annals of Rheumatic Diseases 1996; 55: 901-906.
5. cCormick D J, Werner B C, Shimer A L. Patient-reported outcome measures in spine surgery. Journal of the American Academy of Orthopaedic Surgeons 2013; 21: 99-107.
6. ook C, Brown C, Isaacs R, Roman M, Davis S, Richardson W. Clustered clinical findings for diagnosis of cervical spine myelopathy. Journal of Manual and Manipulative Therapy 2010; 18: 175-180.

7. Jennifer A T, Bartleson J D. Cervical spondylotic myelopathy. *Neurologist* 2010; 16: 176-187.
 8. Jennie W C, Michael AL, Haroon FC, Paul RC. Cervical spondylotic myelopathy: patterns of neurological deficit and recovery after anterior cervical decompression. *Neurosurgery* 1999; 44: 762-769.
 9. Addadian K, Rezaee O, Sadeghi S, Samani M A, Sharifi G, Aliasgari A. Cervical spondylotic myelopathy: the pattern of neurologic deficits and improvement following anterior cervical decompression surgery for CSM. *Medical Journal of the Islamic Republic of Iran* 2005; 18: 331-335.
 10. J. Riddha vagbhata, *Ashtanga sangraha, Sutra sthana, Doshaadi vigyaneeyam adhyaya*, 19/5, edited by Shiv prasad Sharma. Varanasi: Chaukhamba sanskrit series office; 2008. p. 149.
 11. Agbhata, *Ashtanga hridaya, Sutra sthana, Doshaadi vigyaneeyam adhyaya*, 13/26-28, edited by Shiv prasad Sharma. Varanasi: Chaukhamba sanskrit series office; 2008. p. 149. H
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