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Ayurvedic interventional management of *Manyagatavata* w.s.r. to Cervical Spondylotic Myelopathy (CSM) - A Case Study

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ABSTRACT

Cervical Spondylotic Myelopathy (CSM) is a degenerative spinal disease which may lead to significant clinical morbidity. The onset of symptoms is usually insidious, with long periods of fixed disability and episodic worsening events. Regarding the pathophysiology of CSM, the repeated injuries to the spinal cord are caused by both static and dynamic mechanical factors. Only limited surgical procedures, neuroplasticity and other medical interventions are employed in modern medicine. The standard treatment for moderate to severe CSM is operative procedures which are least preferred by the elderly patients. Hence there is a need to search for effective treatment in alternative medicine. According to *Ayurveda,* cervical spondylosis can be co-related with *Manyagatavata*, a type of *Vataja Vyadhi.* A 48 years old male patient presented with Neck pain, neck stiffness, and back pain since 4 years. Here, we are presenting a case of Cervical Spondylotic Myelopathy (CSM) which was treated with *Ayurvedic Panchakarma* procedures such as *Virechana* with *Mahatikta Ghruta*, *Tiktaksheera Basti*, *Greeva Basti*, *Nasya Karma* with *Vacha Taila* along with Ayurvedic oral drugs like Tab *Brihatvata Chintamani Rasa*, *Ashvagandha Churna* with *Kavacha Beeja Churna*, *Amruta Guggula*, *Ekangaveera Rasa* and *Chaturbhurja Rasa*. These entire drugs were prescribed for twice a day after meals. This case report revealed usefulness of *Panchakarma* procedures and Ayurveda oral medicines in the management of *Manyagatavata* w.s.r. to Cervical Spondylotic Myelopathy (CSM).

Key words: *Manyagatavata, Cervical Spondylotic Myelopathy, Neck pain, Tiktaksheera Basti, Virechana.*

INTRODUCTION

Neck pain is a symptom of many pathological conditions cervical spondylosis also called as cervical degenerative arthritis is one of them and is the most common. Cervical spondylosis is the most common non-traumatic cause of myelopathy in the cervical spine. Different from the majority of the other spinal problems in which the clinical treatment is usually the first option, early surgery is a key point to interfere in the natural history of cervical spondylotic myelopathy (CSM) and improve the neurological prognosis. Cervical spondylotic myelopathy (CSM) is a compression of the spinal cord in the neck. It is the most common spinal cord problem in the worldwide for people ages 45 and older. Cervical intervertebral disc has long been considered a common source of neck pain. The pathophysiology of CSM is thought to be multifactorial. Both static factors causing stenosis and dynamic factors resulting in repetitive injury to the spinal cord and spinal cord ischemia are involved in pathophysiology. People who suffer from neck pain

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may experience acute, chronic, or intermittent pain or a combination of them. In case of chronic neck pain, both mechanical and degenerative factors are more likely to be found. Sometimes, severe degeneration of cervical spine remains asymptomatic but can lead to neck pain, stiffness and other neurological complications in later stage. [Fig-1] Lifestyle is also an important predictor of CSM. Certain risk factors are includes blow injuries, sports injuries, and trauma. The type of pillow used during sleep and poor posture is the major predisposing factor for cervical spondylosis.[1] The incidence of CSM-caused hospitalization in eastern Asia is 4.04 per 100,000 person-years, with higher incidences observed in older and male patients. The growing prevalence of cervical spondylosis worldwide, demands proper attention and appropriate intervention to be put in place.[2] Only limited surgical procedures, neuroplasticity and other medical interventions are employed in modern medicine. The standard treatment for moderate to severe CSM is operative procedures which are least preferred by the elderly patients. Hence there is a need to search for effective treatment in alternative medicine.

Cervical spondylosis can be correlated with *Manyagatavata* in *Ayurvedic* prospective. It is one of the eighty types of *Vatavyadhi*. The symptoms of *Vatavyadhi* (various neurological and musculoskeletal disorders) includes *Sankocha* (contraction), *Stambhana* (stiffness) of joints and *Shoola* in the joints and bones, *Grahama* (spasticity) of hands, back as well as head, *Shosha* (atrophy) of body parts, *Spandana* (trembling of body), *Gatrasuptata* (numbness), *Hundana* (shrinking) of head, nose, eyes, clavicles region and neck, *Bheda* (breaking pain), *Toda* (pricking pain), *Kampana* (trembling), *Balaindriyabhramsa* (loss of strength and sensory function) etc.[3]

It is a need of the time to use *Ayurvedic* treatment in the management of Cervical Spondylotic Myelopathy, here we are submitting the successful case report of *Ayurvedic* treatment of *Manyagatavata* w.s.r. to Cervical Spondylotic Myelopathy (CSM). The purpose of presenting the case report is to share the experience of a successful evidence based *Ayurvedic* treatment in *Manyagatavata*. So that the other *Ayurvedic* practitioners could be benefitted to develop their skills.

Case Report

A 48-years- old married male patient of age, presented to Outdoor Patient Department of *Kayachikitsa* at *A.S.S. Ayurved Mahavidyalaya Arogyashala Rugnalaya*, *Nashik*, India with the complaints of gradually weakness of both bilateral upper limbs and lower limbs with chief complaints such as positional vertigo, stiffness and pain around the neck region, since 4 years. The patient also reported sporadic low back pain, with decrease in muscle power in both upper and lower limbs, urinary and fecal incontinence and inability to sit even with support. There was no history of hypertension, diabetes mellitus, tuberculosis or any other serious illness. No relevant hereditary, congenital and surgical illness was found. Before two months he had painful neck movement. He was diagnosed as a case of cervical spondylosis with myelopathy. He consulted neurological and orthopedic doctors at *Dhule* and surgical intervention was advised, which the patient denied. He was advised to take analgesics and anti-inflammatory medicine for pain management by previous consultant.

Clinical findings

After proper history taking, case was subsequently admitted to the Male *Kayachikitsa* ward of *A.S.S. Ayurved Arogyashala Rugnalaya*, *Nashik* on February 18, 2021 for the *Ayurvedic* therapeutics. On physical examination, the general condition of the patient was anxious with pulse rate 92/min, regular rhythm; BP was 128/90 mm of Hg; respiratory rate was 18/min regular and patient was afebrile, appetite was apparently normal and tongue was coated. Micturition and bowel movement were abnormal. Patient having *Vatakapha Prakriti* with *Madhyama Samhanana* (medium body built), *Madhyama Sara* (medium purest body tissue), *Sama Pramana* (symmetrical body proportion), *Madhyama Satmya* (medium homologation), *Madhayama Satva* (medium

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mental strength), *Avara Vyayamshakti* (less capability of physical activities), *Madhyama Aharshakti* and *Jaranashakti* (medium food intake and digestive power). The patient demonstrated normal gait with support. Straight leg raise (S.L.R.) was found to be negative bilaterally. The active movement of range of cervical spine was restricted. Pain aggravated on the movement of neck. On examination, tenderness was examined over C6-C7 vertebras. Pain and stiffness while movement of neck position from right to left and in circular motion. Lhermitte's sign was positive. The patient was right-handed. All cranial nerves were well intact. The range of motion for the bilateral knee and ankle joints was normal and the strength of the hamstrings and quadriceps musculature was also normal. On neurological examination, higher mental function and speech were normal. On motor examination, bulk, tone, power and coordination of arms and legs were normal bilaterally. Power in both upper limbs was grade 4 on medical research council score. Power in left leg was grade 4 and in right leg was grade 3. Babinski reflex were positive bilaterally. Deep tendon reflex examination revealed a diminished left Achilles tendon reflex. All laboratory and biochemical investigations were normal. Magnetic resonance imaging (MRI) of cervical spine that was done on October 27, 2017; revealed degenerative cervical osteoarthritis, maximum neurological compression is seen at C6- C7 level.

Diagnostic focus and assessment

Patient was known case of Cervical Spondylotic Myelopathy (CSM) which was confirmed by previous MRI report. In cervical spondylotic myelopathy, MRI shows narrowing of the spinal canal with decompression caused by osteophytes. *Manyagatavata* was considered as *Ayurvedic* diagnosis which is included in *Nanatamaja Vatavyadhi*.

Treatment plan

Manyagatavata comes under *Urdhwajatrugata Roga* and *Nanatamaja Vatavyadhi* (various musculoskeletal and neurological disorder). In *Ayurveda* general line of management of *Urdhwajatrugata Roga* and *Nanatamaja Vatavyadhi* such as *Snehana* (oleation), *Swedana* (sudation), and *Nasya* (drug administration through the nose) were adopted for the case. Along with oral *Ayurvedic* medicines; considering the patient's *Vatakapha Prakriti* and physical constitution, mild massage and mild sudation adopted along with *Tiktaksheera Basti* were given to the patient.[4]

Intervention

Total 5 *Panchakarma* interventions were adopted to treat this patient. *Abhyanga* with *Ksheerabala Taila* for 14 days, *Navana Nasya* with *Vacha Taila* for consecutively 14 days followed by *Virechana* (purgative therapy) with *Mahatikta Ghruta Snehapana*, *Basti* (enema) with *Tikta Ksheera* for 10 days and lastly *Greeva Basti* with *Dashmoola Taila* for 14 days [Table 1] Along with these *Panchakarma* intervention combinations of *Ayurvedic* oral medicines such as *Ashvagandha Churna* (Powder of *Withania somnifera* Dunal) 3g, *Kavacha Beeja Churna* (Powder of *Mucuna pruriens*) 3g with *Goghruta* (pure cow's ghee) after meal, *Amruta Guggula* 2 tablets (500 mg each tablet) with lukewarm water after meal twice a day, *Brihatavata Chintamani Rasa* 2 tablets (50mg each tablet) with lukewarm water after meal twice a day were prescribed. [Table 2] These oral medications were continued in following 2 months after the completion of *Panchakarma* schedule with addition of tablet *Chaturbhurja Rasa* 2 tablets after meal twice a day with (pure cow's milk).

Assessment Criteria

1) VAS (Visual Analog Scale)
2) CROM (Cervical Range of Movement)
3) MRCS (medical research council scale)
4) Lhermitte's sign
5) mJOA score (modified Japanese orthopedic association)

Outcome measures and follow-up

After completion of *Panchakarma* procedures patient condition was assessed for pain, giddiness, neck stiffness, neck motion, power and reflexes of upper and lower limbs. Pain had subsided. [Fig-2] Patient

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had no giddiness. Neck stiffness had substantially reduced. Visual Analog scale was decreased from 60 to 30. [Table-3] Range of motion of neck was normal. [Table-4] Power of both upper and lower limbs was 5/5 on medical research council scale.[5] Reflexes and movement of both upper and lower limbs were found to be normal. [Fig-3] Lhermitte's sign was negative at this time.[6] mJOA score for cervical spondylotic myelopathy was-07 before treatment and improved to 12 after one month of treatment.[7] Patient was discharged on March 10, 2021 with instruction to continue *Ayurvedic* oral medicines. Patient condition was stable after one month of treatment.

Discussion

The patho-physiology of the development of CSM can be referred to as a cascade in which multiple factors play a role. The process usually begins with the degeneration of the cervical disc with further collapse of the discal space. The endplates of the vertebral bodies progressively suffer mechanical stress with the consequent formation of osteophytes. The repeated injuries to the spinal cord, which result in CSM, are caused by both static and dynamic mechanical factors. The combination of these factors affects the spinal cord basically through two mechanisms: direct trauma and ischemia are static mechanical compression, dynamic mechanical compression and spinal cord ischemia Mechanical factor contributes to the development of CSM, which can be divided further into three main types on the basis of patho-physiologic factors. 1) Static mechanical factors result in the reduction of spinal canal diameter and spinal cord compression. 2) Dynamic stress are refer to the abnormal motion of the cervical spine during flexion or extension, which can contribute to spinal cord injury synergistically with static mechanical factors. 3) Spinal cord ischemia occurs when degenerative elements compress blood vessels that supply the cervical spinal cord and proximal nerve roots. Ischemia may result from direct compression of larger vessels such as the anterior spinal artery and overall reduced flow in the pial plexus as well as in small penetrating arteries which supply the cord. The normal motion of the cervical spine may aggravate spinal cord damage precipitated by this direct mechanical and static mechanical compression. The spinal cord lengthens during flexion, thus stretching over ventral osteophytic ridges.[8] *Ayurveda* diagnosis of these problems can be correlated with *Manyagatavata*. Symptoms such as *Bhrama* (vertigo) and *Bahushosha* (weakness and emaciation of upper limbs). All these symptoms are considered in *Nanatamaja Vatavyadhi* (due to *Vata dosha*). *Vata Dosha* is vitiated due to several etiological factors, *Margavarana* (obstruction in natural course of *Vata* such as abnormal synthesis of tissues elements) and *Dhatukshaya* (depletion of body tissue). *Manya pradesha* (neck region) is mostly associated with changes in cervical vertebral column.[9] There is degeneration of inter-vertebral disc and lubrication function of *Shleshaka Kapha* is affected which results in compression, irritation or inflammation in *Manya pradesha* resulting in pain. And this vitiated *Vata* leads to *Margavarana* and *Dhatukshaya* in vicious cycle and may lead to manifestation of CSM. There is depletion of *Sthanika Kapha* (localized *Kapha Dosha* at cervical region) due to vitiated *Vata Dosha*. Vitiated *Pitta* and *Vata Doshas* lead to *Bhrama* (vertigo). Vitiated *Vata* and depleted *Kapha Dosha* may lead to *Bahushosha*. *Brihmana* (nourishment) is the treatment for *Dhatukshaya*. *Snigdha* (unctuous), *Srotoshodhaka* (bio purification of micro-channels) *Vatanulomaka* (correction of function of *Vata Dosha*) treatment and treatment which is compatible to *Kapha* and *Pitta Doshas* was adopted for any *Avarana* or *Margavarodha*.[10] *Virechana* with *Mahatikta Ghruta*, *Basti* with *Tikta Ksheera*, *Guggula*; and *Rasayana* (immunomodulatory) are also indicated for *Nanatamaja Vata*, *Avrita Vata* and chronic *Vata Vyadhi*. *Panchakarma* procedures and selected *Ayurvedic* oral drugs were employed according to all above said facts to manage this case of CSM.[11] *Abhyanga* with *Ksheerabala Taila* was adopted. *Abhyanga* is one of the *Bahira Parimarjana Chikitsa* (external body oleation) which gives *Bala* (power) to the body. *Dalhana* commented that around eight hundred *Matrakala* needed for reaching the medicine up to *Asthi Dhatu*, so *Abhyanga* was performed for around five minutes. After *Abhyanga*, *Swedana* was

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performed which are has very effective and give quick result as they act at the site of *Samprapti*. It increases sweat and brings out *Mala Dravyas* along with sweat. Also decreases *Kleda* in the body resulting in the reduction of *Gaurava* (heaviness) in *Urdhvajatrugata*.[12] *Nasya karma* selected here is of *Brimhana* variety which successfully helps to counteract the degenerative process by exhibiting *Brimhana* effect on the part affected.[13] *Greeva Basti* is a procedure in which both the properties of *Snehana* and *Swedana* are incorporated. *Vata Dosha* is *Sheeta*, *Ruksha* and *Greeva Basti* being *Snigdha* (unctuous) and *Ushna* (hot) in nature alleviates the disease. In *Ayurveda*, brain and spinal cord is considered to be form of *Majjadhara Kala* (membrane surrounding the bone marrow) *Bhrama*, *Tamahapravesha* (temporary vision loss) are also the symptoms of *Majja-Pradoshaj Vikaras*.[14] Foods and drugs having sweet and bitter properties are indicated in *Majja-Pradoshaj Vikaras*. *Tikta Rasa* (bitter taste) is indicated for bone pathology. The drugs selected for *Tikta Ksheera Basti* are predominantly of *Katu*, *Tikta Rasa*, *Ushna Virya*, *Katu* & *Madhura Vipaka* and *Tridosha Shamaka* properties. *Tikta Rasa* has *Vayu* and *Aakasha Mahabhuta* in dominance. Hence it has got affinity towards the body elements like *Asthi* having *Vayu* and *Aakasha Mahabhuta* in dominance. Though, *Tikta Rasa* aggravates *Vayu* which may enhance the pathogenic process of *Manyagatavata Vata* but, as main principle of *Ayurvedic* treatment is *"Sthanam Jayate Purvam"*. The main site of *Manya* is *Asthi*. And *Sandhi* which is the site of *Shleshaka Kapha*. So, by decreasing the *Kapha Dosha*, *Tikta Rasa* fulfills the principle.[15] *Ashvagandha* has *Rasayana* and *Balya* (anabolic) properties. *Kavach Beeja Churna* balances *Vata* functions and acts as vigor.[16] Combination and properties of the drugs in *Amruta Guggula* has efficiency in clearing the *Margavarana*. *Guggula, Guduchi,* and *Triphala* are the chief ingredients. It also has *Rasayana* properties.[17] *Ekangaveera Rasa* is effective in *Vatakaphaja* disorders and *Pakshaghata* (hemiplegia). *Bruhatvatachintamani Rasa* is the *Kharaliya Swarna Kalpa* which is used in various *Vata Dosha* imbalance diseases such as Paralysis, Hemiplegia, Facial palsy, Tremors, *Vatapittakruta Roga*, it is act on body as well as mind.[18] *Virechana* is aimed mainly for the elimination of *Pitta Dosha*, it also influences *Vata* and *Kapha Dosha* elimination. Hence many times it is prescribed as general line of treatment for *Vata Vyadhi*. *Chaturbhurja Rasa* acts as a nerve tonic. Along with this various non-surgical strategies have been in use such as cervical traction, cervical immobilization (collar or neck brace), skull traction and physical therapy. In the case of myelopathy, surgical intervention is necessary. The cervical laminectomy is not appropriate for all patients. It may lead to neurologic deterioration and attributed to a development of latent instability of the spine with development of kyphotic spinal deformities.[19] This demonstrates the safety profile of multi-ingredient formulation and *Panchakarma* procedures. Hence this case study is important one as this shows the clinical improvement in cervical spondylotic myelopathy with *Panchakarma* and Ayurvedic oral medicinal interventions. Later there was no need to use any surgical intervention for this case.

CONCLUSION

The case report validates clinical improvement in a Cervical Spondylotic Myelopathy (CSM) with *Panchakarma* and *Ayurvedic* oral medicinal interventions.

Figure 1: Patho-physiology of Cervical Spondylotic Myelopathy

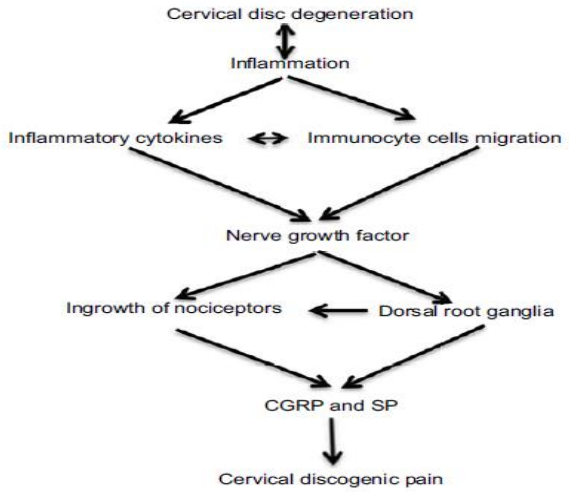

Figure 1 A schematic diagram of the relationship between cervical disc degeneration, inflammation and discogenic pain.
Abbreviations: CGRP, calcitonin gene-related peptide; SP, substance P.

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Figure 2: Movement of Neck Before and After Treatment

Figure 3: Movement of both Upper limbs Before and After Treatment

Table 1: *Panchakarma* Interventions

***Panchakarma* Procedures**	**Drugs**	**Methods of Application**	**Days of Treatment**
Abhyanga with *Ksheerabala Taila*	*Ksheerabala taila* consists of ▪ Processed and purified *Ksheera* (cow's milk) ▪ *Balamoola* (*Sida cordifolia*) ▪ *Murcchita Tila taila* (Sesame oil)	Patient should be seated on the *droni* (table), with leg extended. The *taila* with optimum temperature should be applied to head, first in the anterior fontanelle and then the whole scalp. Then *Karnabhyanga* should be done, Palm and *Padabhyanga* are also done prior to the main process. The *taila* heated should be applied uniformly by two therapists on both sides of the *droni*. Start massaging scalp, head and move down to neck, upper back, shoulders, upper arms, forearms & hands; then chest, abdomen, low back, lower limbs.	14 Days
Navana Nasya with *Vacha taila Nasya*	• *Vacha* (acorus calamus) • *Murcchita tila taila* (Sesame oil)	*Abhyanga* with *Dashmoola taila* over face followed by *Mridu swedana*. 6 drops of *Vacha taila* administered in each nostrils followed by *Dhoomapana*.	14 Days
Virechanarth	• *Virechanart*	*Virechanartha*	7 Days

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a Snehapana with *Mahatikta Ghruta*	*ha Snehapana with Mahatikta Ghruta* for 4 consecutive day in increasing dose from Day1- 30ml to Day 4 - 120ml • *Virechana Trivrutta avaeha kalpa* at last day of *Virechana karma*	*Snehapana* with *Mahatikta ghruta* for 4 consecutive day in increasing dose from Day1- 30ml to Day 4 - 120ml. Afterwards 2 days of *Swedana* and *Snehana* given. At 7th day *Virechana Trivrutta Avleha Kalpa* was given and patient was advised to take rest with close observation of number of defecation achieved.	
Basti with *Tiktaksheera Basti*	*Ksheerpaka dravya* *Guduchi* ▪ *Vasa* ▪ *Nimba* ▪ *Patola* ▪ *Kantakari* (40grams + *Godugdha* (300ml) + Water (1280ml) = Reduced to Ksheeravsesha) 1) *Basti* formulation: ▪ *Madhu*- 80ml ▪ *Saindhava*- 10gms ▪ *Sneha- Panchtiktaka ghrita*- 120ml ▪ *Kalka- Shatapushpa* (10gms) + *Yastimadhu* (10gms) ▪ *Panchatiktaksheera paka* - 300ml 2) *Anuvasana Basti* – *Panchatiktaka ghrita* - 120ml	*Anuvasana basti* given with *Panchatiktaka Ghrita* on the first day, followed by *Panchtikta ksheera* *basti* in the morning ,after *Sarvanga Abhyanaga* with *Murchita tila Taila*, Followed by *Nadi sweda*. In the afternoon *Anuvasana Basti* was given for 6days. Last 3 days *Anuvasana Basti* was given to the patients.	10 Days
Greeva basti	*Dashmoola Taila* Ingredients- ▪ *Bilva* (*Aegle marmelos*), ▪ *Shyonaka* (*Oroxylum indicum*), ▪ *Gambhari* (*Gmelina arborea*), ▪ *Patala* (*Stereospermum suaveolens*), ▪ *Agnimantha* (*Premna mucronata*), ▪ *Shalaparni* (*Desmodium gangeticum*), ▪ *Prishniparni* (*Uraria picta*), ▪ *Brihati* (*Solanum indicum*), ▪ *Kantakari* (*Solanum xanthocarp*	The person undergoing *Greeva Basti* is made to lie face down on the massage table. The dough is prepared out of black gram flour or whole wheat flour. It is then made into a small ring of four to five inches in diameter which is placed over the neck to cover all the vertebrae of the neck and 2-3 vertebrae of the thoracic region. After it is glued with some water to make it leak proof, lukewarm medicated *Taila* is slowly poured into it. When this cools down it is squeezed out	14 Days

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	um), ▪ *Gokshura* (*Tribulus terrestris*)	and replaced with warmer one. At the end of the procedure the dough is removed; a gentle massage is given over the area. The person is made to take rest for a while.	

Table 2: Ayurvedic Oral Medicinal Interventions

Name of Drugs	Ingredient	Latin Name/ English Name	Dose	*Anupana*	Days of Treatment
Tab *Amrutadi guggulu*	*Guduchi*	*Tinospora cordifolia*	2 tab 500mg each, Twice a day after meals	Lukewarm water	1 month from the day of admission
	Guggulu	*Commiphora mukul*			
	Haritaki	*Terminalia chebula*			
	Vibhitaki	*Terminalia belerica*			
	Amalaki	*Emblica officinalis*			
	Shunthi	*Zingiber officinalis*			
	Maricha	*Piper nigrum*			
	Pippali	*Piper longum*			
	Vidanga	*Embelia ribes*			
Tab *Ekangaveera rasa*	*Shuddha Parada*	Purified Mercury	2 tab 125mg each, Twice a day after meals	Lukewarm water	1 month from the day of admission
	Shuddha Gandhaka	Purified Sulphur			
	Kantaloha bhasma	Manganese calx			
	Vanga bhasma	Tin calx			
	Naga bhasma	Lead calx			
	Tamra bhasma	Copper calx			
	Abhraka bhasma	Mica calx			
	Tikshna loha bhasma	Iron calx			
	Shunthi	*Zingiber officinalis*			
	Maricha	*Piper nigrum*			
	Pippali	*Piper longum*			
Tab *Brihatavata chintamani rasa*	*Swarna bhasma*	Purified Gold calx	2 Tab 50mg each, twice a day after meal	*Go dugdha* (cow's milk)	1 month from the day of admission
	Raupya bhasma	Purified Silver calx			
	Lauha bhasma	Purified Iron calx			
	Prawala bhasma	Coral calx			
	Mukta bhasma	Pearl calx			
	Abhraka bhasma	Purified Mica calx			
	Rasasindoora bhasma	Purified Mercury based			
Ashvagandha	*Ashvagandha*	*Withania*	1 tsp in	*Go ghruta*	1 month from the

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churna+ *Kavacha beeja churna* (in equal doses)	3gm	*somnifera Dunal*	equal quantity, before meal	(cow's ghee)	day of admission
	Kavacha beeja 3gm	*Mucuna pruriens*			
Chaturbhuja rasa	*Mrita Suta*	Purified Mercury	2 Tab 500mg each, twice a day after meal	*Go dugdha* (cow's milk)	After the competition of *Panchakarma* procedures
	Swarna bhasma	Purified Gold calx			
	Shilajatu	Asphaltum			
	Kasturika	Musk			
	Tala	Purified orpiment			
	Kumari	*Aloe vera*			
	Eranda	*Ricinus communis*			

Table 3: Visual Analog Scale (VAS)

Visual Analog Scale (VAS)	
Before Treatment	**After Treatment**
60	30

Table 4: Cervical Range of Movement (CROM)

Cervical Range of Movement (CROM)											
Flexion		**Extension**		**Lateral Flexion (Lt)**		**Lateral Flexion (Rt)**		**Lateral Rotation (Lt)**		**Lateral Rotation (Rt)**	
Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
25	40	20	45	20	35	15	35	20	45	25	45

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