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EFFECT OF *PANCHAKARMA* AND *SHAMANA* TREATMENT IN MULTIPLE SCLEROSIS: A CASE STUDY

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ABSTRACT

Autoimmune disease occurs when the immune system attacks self-molecules as a result of a breakdown of immunologic tolerance to autoreactive immune cells. Autoimmune disorders are on the rise globally and affect 8.5% of the population worldwide. Multiple sclerosis (MS), the most prevalent neurological disability is an autoimmune disease of the Central nervous system characterized by chronic inflammation, demyelination, gliosis, and neuronal loss. Although the aetiology and pathogenesis of MS remain unclear, several studies illustrate that the cause of MS is multifactorial and includes genetic predisposition together with environmental factors. Therapies for MS are based on the use of anti-inflammatory and immunomodulatory drugs, but these treatments are not able to stop the destruction of nerve tissue. Hence a comprehensive management program is strongly recommended for all patients with multiple sclerosis, enhancing the health-related quality of life through advocating wellness, addressing aggravating factors, and managing comorbidities. Multiple Sclerosis can be understood as *Urusthamba* based on the similarity of symptoms as there is no direct correlation in *Ayurvedic* classics. With immunosuppressants or cortico-steroids as the only available treatment in modern sciences, *Ayurveda* can be a ray of hope. A Male patient aged about 30 years with complaints of pain, burning sensation all over the body, stiffness, and weakness of bilateral upper and lower limbs along with tingling and numbness sensation, & imbalance during walking for 8 months. The patient was treated with *Panchakarma* therapies like *Alepa*, *Udwartana*, *Dhanyamladhara*, *Dashamula Parisheka*, etc., and with *Shamana* drugs. *Urusthambha* according to *Charaka* is *Kapha Dosha Pra-*

dhana Vyadhi, but according to *Sushruta* it is *Vata Dosha Pradhana Vyadhi*, Vitiated *Kapha Dosha* along with *Meda Dhatu* it obstructs *Vata*, and *Pitta Dosha*, it enters in *Urupradesha* due to its *Stairya* and *Saitya Guna* due it does *Stambana* and said as *Urustambha* and it is *Amatridoshasamuttana*.

With this basic concept, a male patient of 30 years diagnosed with Multiple sclerosis was treated with *Ayurvedic* management 3 sittings in IPD level and 1 OPD level sitting. The treatment showed significant even improvement seen in the symptoms, hence it can be effectively practiced in the management of Multiple Sclerosis.

Keywords: Multiple Sclerosis, *Alepa, Dhanyamladhara, Dashamoola Parisheka, Udwartana, Rajayapana Basti, Urusthamba*.

INTRODUCTION

Multiple sclerosis also known as encephalomyelitis disseminate, is the most common demyelinating disease, in which the insulating covers of nerve cells in the brain and spinal cord are damaged[1]. Characterized by a triad of inflammation, demyelination, and gliosis; the course can be relapsing-remitting or progressive. In more than half of the cases, myelin-specific autoantibodies promote demyelination and stimulate macrophages and microglial cells that scavenge the myelin debris. MS is approximately twice as common in women as in men.

The Prevalance of MS differs among ethnic groups residing in the same environment. First, second, third-degree relatives of MS patients are at increased risk for the disease. Multiple sclerosis affects 1.1 million individuals worldwide. Manifestation of Multiple sclerosis varies from a benign illness to a rapidly evolving and incapacitating disease requiring profound lifestyle adjustments. The age of onset is typically between 20 and 40 years. Rarely, it can begin as early as 2 years of age or late as the eight decade[2].

Pathophysiology: T cells enter the brain via disruption in the BBB, then T cells recognize myelin as foreign and attack it, which starts inflammatory processes which release Cytokines and antibodies which interact with macrophages. B cells make antibodies that mark the myelin & macrophages will use these antibodies to engulf the oligodendrocytes and myelin.

Four clinical types of MS:

Types of Multiple Sclerosis: Types are considered important not only for prognosis but also for treatment.

1. **Relapsing/ remitting MS (RR-MS)**- Relapsing /remitting MS(RR-MS) accounts for 85% of MS cases at onset and is characterized by discrete attacks that generally evolve over days to weeks (rarely over hours).
2. **Secondary progressive MS (SP-MS)** - Is always begins as RRMS. Approximately 50% of patients with RRMS will have developed SPMS after 15 years, and longer follow -up points indicate that the great majority of RRMS ultimately evolves into SPMS.
3. **Primary –progressive MS (PP-MS)** - It accounts for approximately 15% of the cases. The patients do not experience attacks but steady function decline from disease onset. Compared to RRMS, the sex distribution is more even, the disease begins later in life (mean age, 40 years), and disability develops faster.
4. **Progressive /relapsing MS (PR-MS)** - It accounts for approximately 5% of the cases. These patients experience a steady deterioration in their condition from disease onset along with occasional attacks superimposed upon their progressive onset[3].

Multiple sclerosis can be correlated to *Urustambha* because its symptoms are like *Gaurava, Aayasa, Daha, Vedana, Supti, Toda*[4]*, Angamarda, Romaharsha, Stabdhata*[5]*. Samprapti* is like due to *Atyadhika Sevana* of *Aahara Viharaja Nidana* it leads to *Dosha Prakopa* due to *Dosha Prakopa* leads to *Manda*gni and after that *Amothpatti* then due to *Meda* and *Kapha Margavarodha* of *Vata dosha* takes place *Sanchaya* of *Meda* and *Kapha in Urupradesha* later

Stabdatha in *Sakti, Uru, Jangha*. Which leads to *Urustambha.* Line of treatment in *Urustambha* is *Kshapana* and *Shoshana Chikitsa, Rukshana Chikitsa, Shamana chikitsa*. Here first *Rukshana Chikitsa* was done to remove *Aavarana* later after *Niramaavastha, Snehana, Basti Chikitsa* were given.

CASE REPORT

A 30-year-old male patient presented with tingling and numbness sensation in bilateral upper limbs, sometimes in bilateral lower limbs, along with pricking sensation, weakness, and heaviness in bilateral lower limbs, imbalance during walking, vertigo, walking with support, backache, pain, burning sensation all over the body and stiffness in bilateral upper limb and lower limbs since 8 months. Detailed history: First numbness was seen in the right upper limb in January 2021, in February first week tingling and numbness sensation was seen in the left upper limb. He took *Ayurvedic* treatment like *Erandamuladi Niruha Basti (Kala)* for 7 days, but symptoms aggravated, in my first week again weakness and heaviness of bilateral lower limbs started, Difficulty in doing normal routine works, buttoning of the shirt, went to another hospital took predmate 16 mg for the first week, predmate 8 mg for next 1 week, 4 mg for 1 week. On June 9, 2021, imbalance during walking, difficulty in coordination of finger movements, then he took again treatment like *Vaitarana basti (Kala)* later patient developed, blurred vision, vertigo, walking with support, weakness, burning sensation all over the body and further symptoms aggravated. In the last week of June patient developed an urge for micturition. So approached our hospital for further management on july 8 2021.

PAST HISTORY: *Nidana* like patients use to take *Sheeta, Ushna, Snigdha Aahara, Guru, Drava, Dadhi* in more quantities. *Ratrijagarana, Vegadharana*. *Purvaroopa* which was seen in the patient was *Dhyana Athyadhika Chinta, Nidraadhiikayta*, heaviness, *Asthiratha*. **FAMILY HISTORY:** No such family history

TREATMENT HISTORY:

-Medications prescribed for the complaints *Chitrakadi Vati, Rasnerandadi Kashaya, BVC* with gold were given in other hospital.

- He was advised to take took Predmate 16 mg for the first week, Predmate 8 mg for the next 1 week, and 4 mg for 1 week in other hospital.

General Examination

Nadi- 74/min
Mutra- Samyak, 5-6 *vega*/day
Mala- Katina, Constipated, (once in two days)
Jihva- Upalepatwam
Shabdha, Druk, Aakruti- Prakruta
Sparsha- Ruksha
Prakriti- Pitta-Kapha
Sara, Satva, Satmya, Samhanana, Pramana- Avara
Aharashakti, Vyayamashakti- Alpa
Vaya- Madhyama

Samprapti Ghataka:

Dosha- Kapha-Pitta Dosha
Dooshya- Rasa, Rakta, Mamsa, Meda, Majja
Srothas- Rasavaha, Raktavaha, Mamsavaha, Medovaha, Majjavaha.
Srothodusthi Lakshana- Sanga
Adhishtana- Sarvashareera mainly Urupradesha
Utpattisthana- Amashayapakwashayottha
Rogamarga- Madhyama.

General examination:

Built, Nourishment- Moderate
Pallor, Icterus, Cyanosis, Clubbing, Oedema- Absent
Lymph nodes- Not palpable
Pulse -74 BPM
B.P -120/80mm of hg
Temp -98.6
RS -22 times/min

Systemic Examination:

RS- NVBS Heard
CVS- S1, S2 Heard No Murmer
CNS- HMF Intact, Fully conscious, oriented to time, place, person, memory intact, intelligence good, speech disturbance absent,
Cranial nerve examination- 2nd and 7th CN affected i.e. Vision, balance.
P/A- Soft and non-tender no organomegaly

Table 1: Reports

Date	Reports
22/2/2021	**MRI WHOLE SPINE (PLAIN)** **Cervical Spine:** **Straightening of the spine was noted. T2 hyperintense, T1 hypointense medullary signals are seen in the cord at C2 to C5, D5, D6 levels, predominantly in the peripheral cord. Mild expansion of the cord is seen at the C3-4 level. A diffuse posterior disc bulge is noted at C4-5 and C5-6 levels causing mild cord indentation. Focal annular fissure is seen at C5-6 level. A tiny T2 hyperintense area is seen on the right side of the cerebellum. The** Corticomedullary cord is normal. The vertebral bodies, pedicles, laminae, transverse processes show normal morphology and MR signal pattern. No evidence of disc herniation, nerve compression, or thecal sac compression is seen at any level. The facet joints and neural foraminae appear normal. The alignment of the vertebrae is normal. CSF displays normal signal intensity in all sequences. There is no evidence of tonsillar herniation. **Dorsolumbar Spine:** The intervertebral disc spaces show normal height and signal pattern. No evidence of any disc dehydration or herniation was made out. The facet joints and neural foraminae appear normal. The Pedicles, laminae, spinous process of the lumbar vertebrae show normal morphology. No evidence of spondylolysis. The ligamentum flavum thickness is within normal limits. The rest of the spinal cord, conus medullaris, and the sub arachnoid space is normal. The nerve roots of the cauda equina appear normal. The paraspinal soft tissues appear normal. Both sacroiliac joints appear normal. **IMPRESSION: T2 hyperintense, T1 hypointense medullary lesions in the cord at C2 to C5, D5, D6 levels, predominantly in the peripheral cord. Mild expansion of the cord is seen at the C3-4 level. Tiny T2 hyperintense area on the right side of the cerebellum. ---- demyelinating lesions. Suggested imaging of brain and contrast study. Diffuse posterior disc bulge at C4-5 and C5-6 levels causing mild cord indentation. Focal annular fissure is seen at C5-6 level.**
16/6/2021	**STUDY INFORMATION: VEP Type: Pattern VEP. Indication for VEP:-** **IMPRESSION:** This is an abnormal Visual Evoked Potential study that showed bilateral optic nerve demyelination.
16/6/2021	**MRI (PLAIN AND CONTRAST)-** **IMPRESSION:** Bilateral supra and infratentorial, callososeptal, periventricular, cingulo-ventricular, right peri 4th ventricular superior cerebellar lobe with right optic neuritis with extension and involvement (right optic nerve shows irregular non-homogenous signals with areas of patchy enhancement involving the intra-orbital portion.)- This is consistent with demyelination like multiple sclerosis.
16/6/2021	**MRI- CERVICODORSAL SPINE (PLAIN AND CONTRAST)** **Findings and Impressions:** Cervico-dorsal cord: Multiple areas of cord hyperintensities with swelling were noted in the cervical and dorsal spine extending from C2 to D2 levels, from D3 to D6 level, at the D8 level, and D11 level. In the post-contrast Study, these lesions reveal punctate disc heterogeneous enhancement- **Moderate interval increase in extent and involvement of cord lesions with multiple new interval lesions in the dorsal cord - Consistent with demyelination etiology.** Cervico-dorsal spine showS normal alignment. No significant facetal joint hypertrophic changes were noted. No bony spinal Canal stenosis. **C4-5, C5-6** Posterior annular tear. Diffuse disc herniation, mild impression on the thecal sac. No focal root compression. No extension in to the foramina. Diffuse disc dehydration doted. Other discs at the cervical and dorsal spine. No significant disc herniations. Pre and para vertebral Soft tissues appear normal.

Diagnosis:

It was diagnosed clinically as a case of PPMS (Primary-progressive multiple sclerosis)[6]. In *Ayurveda,* it is diagnosed as *Urustambha* because it *Nidana, Purvaroopa, Samprapti, Lakshanas* which matches with patients history, symptoms like in *Nidana* like patient use to take *Sheeta, Ushna, Snigdha Aahara, Guru, Drava, Dadhi* in more quantity. *Ratrijagarana, Vegadharana*. *Purvaroopa* which was seen in the patient was *Dhyana Athyadhika Chinta, Nidraadhiikayta,* heaviness, *Asthiratha*. Symptoms were *Gaurava, Aayasa, Daha, Vedana, Supti, Toda, Angamarda,*

Romaharsha, *Stabdhata*. *Samprapti* was like due to *Atyadhika Sevana of Aahara Viharaja Nidana* it leads to *Dosha Prakopa* due to *Dosha prakopa* leads to *Mandagni* and after that *Amothpatti* then due to *Meda* and *Kapha Margavarodha* of *Vata Dosha* takes place *Sanchaya* of *Meda* and *Kapha in Uruprade-sha* later *Stabdatha* in *Sakti*, *Uru*, *Jangha*. By this, diagnoses were done.

Table no 2: INTERVENTION: 3 sittings in IPD level and 1 OPD level sittings of follow up

DATE	OPD	IPD	DISCHARGED MEDICINES
8/7/2021 To 23/7/2021	--	- *Alepa (Agnichikitsa)* - *Dhanyamladhara* for 7 days - Later *Udwartana* with *Godhuma Choorna*, - *Dashamoola Parisheka* for 8 days - *Vidangarishta* 6 tsp BD - *BVC* with gold 1 TDS	1. *Vidangarishta* 6 tsp BD 2. *Yogendra Rasa* 1 TDS 3. *Gandha Taila* 1 TDS 4. *Dashamoola Kwatha* 50 ml. TDS For 30 days.
25/8/2021 To 8/9/2021	--	- *Alepa* - *Dhanyamladhara* - *Dashamoola Parisheka* - *Udwartana* with *Godhuma Choorna* - *Rajayapana Basti* - (*Kala*) for 15 days. - *Bringalaxadi Kashaya* 10 ml TDS	1. *Vidangarishta* 6 tsp. BD 2. *BVC* with gold 1 OD 3. *Balamoola Kwatha Churna* 50 ml. TDS
8/11/2021 To 15/11/2021	--	- *Pinda Sweda* - *Madhutailika Basti* (*Kala*) for 8 days - *Veerataradi Kashaya* 6 tsp. BD - *Shaddharana Yoga* 2 TDS	*1. Vidangarishta* 6 tsp. TDS *2. Shaddharana Yoga* 2 BD *3. Palsineuron* 1 TDS
21/2/22	*Nurod 1 TDS* *Vidangarishta* 6 tsp. TDS	--	--

Symptoms like Improvement were seen in the coordination of fingers, Vertigo was reduced. Burning sensation all over the body reduced, No blurred vision, Weakness of bilateral lower limbs reduced, Imbalance during walking reduced, Stiffness in bilateral upper and lower limbs moderately reduced, Heaviness in bilateral lower limbs reduced, Tingling and numbness sensation in bilateral upper limbs moderately reduced in bilateral lower limbs reduced, Pricking type of pain in bilateral upper Limbs reduced after the treatment.

Table 3: Examinations:

Examination: MOTOR SYSTEM				
	Before Treatment		After Treatment	
1)Involuntary movements- Absent				
2)Muscle bulk	RT	LT	RT	LT
Biceps	15 inches	15 inches	15 inches	15 inches
Forearm	10 inches	10 inches	10 inches	10 inches
Mid-thigh	25 inches	25 inches	25 inches	25 inches
Calf muscles	16 inches	16 inches	16 inches	16 inches
3)Muscle tone				
Right hand	Score 1(slight increase in tone)		Normal	
Left hand	Score 1(slight increase in tone)		Normal	
Right leg	Score 3(Considerable increase in tone)		Normal	
Left leg	Score 3(Considerable increase in tone)		Normal	
4)Muscle strength				
Upper limb	RT	LT	RT	LT
Elbow –Flexion	5/5	5/5	5/5	5/5
- Extension	4/5	5/5	5/5	5/5
Wrist –Flexion	5/5	5/5	5/5	5/5
-Extension	4/5	5/5	5/5	5/5
Finger abduction	4/5	5/5	5/5	5/5
Opposition of thumb	5/5	5/5	5/5	5/5
Test of Grip	5/5	5/5	5/5	5/5
Lower limb				
Hip –Adduction	4/5	3/5	5/5	4/5
Abduction	4/5	3/5	5/5	4/5
Flexion	4/5	3/5	5/5	4/5
Extension	4/5	3/5	4/5	4/5
Knee- Flexion	4/5	3/5	4/5	4/5
Extension	4/5	3/5	4/5	4/5
Ankle– Dorsiflexion	4/5	4/5	4/5	4/5
Plantarflexion	4/5	4/5	4/5	4/5
5) Co- ordination				
Sensory–Stereognosis	Present	Present	Present	Present
Point discrimination- UL	Present	Present	Present	Present
- LL	Present	Present	Present	Present
Graphestesia	Present	Present	Present	Present
Motor UL – Finger nose test Finger nose finger LL – Knee heel test	Co – ordination difficulty in fingers		Co – ordination Present	
6)Reflexes				
Superficial –Corneal	Present		Present	
Abdominal	Present		Present	
Deep -	RT	LT	RT	LT
Biceps jerk	Normal	Normal	Normal	Normal

Triceps jerk	Normal	Normal	Normal	Normal
Knee jerk	Hyporeflexic	Hyporeflexic	Normal	Normal
Ankle jerk	Hyporeflexic	Hyporeflexic	Normal	Normal
Clonus- Patella	Hyporeflexic	Hyporeflexic	Normal	Normal
Ankle	Hyporeflexic	Hyporeflexic	Normal	Normal
Babinski reflex	Absent	Absent	Absent	Absent
Abdominal	Absent	Absent	Absent	Absent
LOCOMOTORY EXAMINATION				
Inspection Palpation	Imbalance during walking Ataxic gait Rombergs sign + Lhermitte sign +		Imbalance during walking Gait -Normal Rombergs sign -Negative Lhermitte sign +	
Sign	Lhermitte sign + Rombergs sign +		Lhermitte sign + Rombergs sign +	

Table 4: Treatment Outcome (Scoring system of MS)[7]

The Kurtzke Expanded Disability Status Score (EDDS) is a measure of neurologic impairment in MS.

Kurtzke EDDS score was 1.0

Sl no	Timeline	MGP in Lower extrimities	Pain	Stiffness	Burning sensation	Kurtzke EDDS Score
1	Base line-	Grade 2	Severe	Severe	All over body	6.0
2	Base line July 2021	Grade 2	Severe	Severe	Moderate	6.0
3	Base line Aug-Sep 2021	Grade 3	Moderate	Moderate	Moderate	5.0
4	Base line October 2021	Grade 4	Moderate	Moderate	Moderate	2.5
5	Base line November 2021	Grade 5	Mild	Mild	Moderate	1.5
6	Base line February 2022	Grade 6	Absent	Reduced	Mild	1.0

[AT-After treatment, MPG-Muscle power gradation, EDSS-Expanded disability status scale]

DISCUSSION

Treatment was aimed to remove *Avarana* followed by *Kevala Vata* and *Rasayana Chikitsa*. The aim of treatment, in this case, was to improve the quality of life and to decrease the dependency of the patient. The patient is having all the symptoms of *Saamaavastha*, to make it in *Niramavastha* this above said treatment has been given. Initially, *Rukshana* (*Udwartana*) treatment was aimed to remove *Kapha Avarana* followed by *Vata Shamaka Chikitsa*. *Lepa (Agnichikita)* exhibits the local *Shodhana* effect in the diseases of *Marma* and *Guhyapradesha*. It is also indicated in *Vatavyadhi*. As the name indicates, the drugs of *Agnilepa* are having a predominance of *Ushna Veerya*, possessing *Ruksha, Teekshna, Ushna Guna*, the predominance of *Katu Rasa* and *Shothahara*, *Stambhahara*, *Vedanasthapaka*, and *Vatakaphahara* properties. In the case of *Sama* or *Avarana* condition involving the *Kapha* and *Medas*, measures are to be taken for the correction of *the Agni*, *Ama*, *Meda*, and *Kaphahara* line of treatment should be adopted. *Dashamoola Parisheka* is a *Drava Sweda*, which is having *Vata Kapha Shamaka* properites, which removes the *Saama Dosha*, it reduces stiffness, heaviness in bilateral upper and lower limbs.

Udwartana- It acts as *Kaphaharam, Vataharam, Medasaha Pravilaapanam, Sthirikaranam angaanam(*Provides stability to the body parts*), Gouravaharam, Tandraharam, Twak Prasadakaram haram, Twaskstha Agni Samyakaram(*Stabilizes and normalizes the *Agni), Sira Mukha Viviktatvam(*it clears the *Srothorodha),Sharira Parimarjanam* etc.

Dhanyamla Dhara: Because of *Ushna, Tikshna* properties, it pacifies vitiated *Vata* and *Kapha*. *Shivadasasena* opines that, though *Dhanyamla* generates *Pitta*, it reduces burning sensation due to its quality of cold at perception; while some attribute this function to the *Prabhava* of *Dhanyamla*. Among the *Dhanyas* used in *Dhanyamla*, most of them are possessing *Madhura Rasa*. *Nagara* and *Deepyaka* are having a predominance of *Katu Rasa*. The process of fermentation of these drugs is initiated and augmented into *Amla Rasa*. Acts as *Daha Shamaka, Vedanahara*, reduces S*tabdhata*, *Amapachaka*. One of the factors can be the *Rukshana* action brought about by *Dhanyamla*[8]. Other factors can be assumed that the drug when poured from a height creates an impact force that liquefies the *Medo Dhatu* and removes the adhered adipose tissue. Thus, continuous use of *Dhanyamla Sarvangadhara* brings about *Dridata*. The medicated liquid absorbed through the skin into the blood vessels shows systemic results all over the body. A probable hypothesis can be made for the action of *Sarvangadhara*. The medicated liquid is poured from a height of 12 *Angula*. The liquid falling over the body surface creates a ripple effect. An impact force is generated which transfers into the deeper tissues. This stimulus thus created, stimulates the sympathetic nervous system. The fibres from the sympathetic nervous system innervate the tissues in every organ system and provide physiological regulation over diverse body processes.

Rajayapana Basti: *Rajayapana Basti* is having *Sadhyo Balajanana* and *Rasayana* properties which means, which increases the power of the body and promotes strength to the body quickly. It has *Vatashamaka Rasayana* effects. *Bala* is depending on the *Udana Vata* and its function is a manifestation of speech, effort, enthusiasm, strength, and complexion. *Deepana, Pachana* properties of *Rajayapana Basti* help to the kindling of *Agni*. Most of the *Basti Dravya* is of *Ushna Veerya*, and most of the drugs are having *Kashaya, Tikta Rasa* which pacifies the aggravated *Vata*, and there the symptoms like *Shoola, Shotha, Sthamba*, and *Sphutana*. Along with this, Aja *Mamsa Rasa* was used as *Avapadravya* which is having best *Vatahara* property, and also does *Preenana* of *Dhatu*. This provides *Snehamsha* in the *Sandhi* and does *Vata Shamana*, thus reliving the *Shotha* and *Sphutana* and increasing *Bala* by which marked reduction in *Vedana* was observed. *Rajayapana Basti* being *Kapha-Vatahara, Balya, Brihmana*, and *Rasayana*, helps in the reduction of symptoms, avoiding further deterioration of *Dhatu* and increasing the quality of life. When the patient attained *Niramavastha, Rajayanpana basti* was given for its *Brimhana* and *Rasayana* properties, this patient had *Bala*, no weakness.

Madhutailika Basti not only regulates and coordinates *Vata Dosha* in its site but also balances another *Dosha*. *Madhutailika Basti* by its effects on *Brimhana, Deepana, Balavarnakara,* and *Rasayana* properties increases *Bala* and *Utsaha*, replenishes the *Dhatu*, and acted on overall degenerative changes (It has both *Rasayana* and *Shodhana* properties). It clears the *Srothorodha* therapy enhancing orderly nourishment to each *Dhatus*. After *Basti Karma*, it does *Agni Deepti*.

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