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Clinical Evaluation of Ayurvedic Management in Pakshaghata WSR to Stroke Using Standard Functional Scales – A Single Case Report

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Abstract: Pakshaghata, described under Vatavyadhi in Ayurveda, is a debilitating neurological condition characterized by unilateral loss of motor and sensory functions. It closely correlates with Stroke in contemporary medicine, a leading cause of long-term disability worldwide. The condition arises predominantly due to aggravated Vata Dosha affecting Snayu (ligaments), Sira (vascular channels) and Mamsa (muscle tissue), often associated with Dhatukshaya (tissue depletion) and Margavarana (obstruction of pathways). **Case Presentation and Intervention:** A 65-year-old male presented with sudden onset weakness of the left side of the body, speech was mildly impaired characterized by intermittent slurring and reduced clarity of articulation and with mild facial deviation following an ischemic stroke confirmed by neuroimaging at a tertiary care centre. The patient reported difficulty in walking, impaired hand coordination and dependence on support for daily activities. He underwent comprehensive Ayurvedic management comprising Shamana Chikitsa for 30 days and Panchakarma Chikitsa for 21 days. The treatment protocol included Abhyanga with medicated oils, Swe dana, Shirodhara, Matra Vasti and Nasya. Internal medications such as Ashwagandha, Bala and Yoga raja Guggulu were administered to pacify Vata, enhance neuromuscular strength and promote tissue nourishment. **Results:** Post-intervention assessment revealed significant functional improvement. Muscle power improved from 2/5 to 4/5 in the affected upper limb and from 3/5 to 4+/5 in the lower limb. Speech clarity improved markedly and facial asymmetry was reduced. Functional Independence Measure (FIM) scores improved from 42 to 102 and NIHSS from 15 to 4, indicating enhanced independence in activities of daily living. The patient demonstrated improved gait stability, better coordination and reduced reliance on external assistance. **Conclusion:** This case highlights the potential of Ayurvedic interventions as an effective supportive approach in the management of Pakshaghata (stroke). The combined application of Panchakarma and Shamana therapies helped in Vata pacification, neuromuscular rehabilitation and overall functional recovery, thereby improving quality of life.

Keywords: Pakshaghata, Stroke, Vata Vyadhi, Panchakarma, Shamana Chikitsa, Functional Independence Measure (FIM) Assessment, NIH Stroke Scale (NIHSS).



Introduction

Stroke is a major global health concern and one of the leading causes of mortality and long-term disability worldwide. It occurs due to an interruption of cerebral blood flow, either ischaemic or haemorrhagic, resulting in focal neurological deficits such as hemiplegia, speech disturbances, facial deviation and impaired coordination. According to global health estimates, Stroke accounts for approximately 11% of all deaths worldwide, with a disproportionately higher burden in low and middle-income countries. In India, the prevalence of Stroke is estimated to range from 84 to 262 cases per 100,000 population, with an annual incidence of approximately 119 to 145 cases per 100,000 person-years. The risk increases significantly with advancing age, particularly above 60 years and is commonly associated with risk factors such as Hypertension, Diabetes mellitus, Dyslipidemia, smoking and sedentary lifestyle. Despite advances in acute medical management, a large proportion of survivors continue to experience residual neurological deficits, affecting their independence and quality of life.

In Ayurveda, Stroke can be closely correlated with *Pakshaghata*, a condition described under *Vata Vyadhi*, characterized by paralysis of half of the body. The pathogenesis primarily involves vitiation of *Vata Dosha*, either due to *Dhatukshaya* (degeneration of tissues) or *Margavarana* (obstruction of bodily channels), leading to impaired functioning of *Snayu* (ligaments), *Sira* (vascular structures) and *Mamsa* (muscles). Classical features such as *Ekanga Bala Kshaya* (loss of strength on one side), *Vaak Stambha* (speech impairment) and *Mukha Vavrata* (facial deviation) closely resemble the clinical presentation of stroke.

The Ayurvedic approach to management emphasizes *Vata Shamana* and *Brimhana Chikitsa*, aiming to restore the balance of *Doshas* and nourish the affected tissues. *Panchakarma* therapies such as *Abhyanga*, *Swedana*, *Vasti* (medicated enema) and *Nasya* play a pivotal role, particularly *Vasti*, which is considered the prime treatment for *Vata* disorders. These are complemented by internal medications that enhance neuromuscular strength, improve circulation and support tissue regeneration.

Given the chronic disability associated with stroke and the limitations of conventional rehabilitation in achieving complete recovery, there is growing interest in integrative approaches. Ayurveda offers a holistic and patient-centred modality that not only addresses the symptoms but also targets the underlying pathology. In this context, the present study aims to evaluate the efficacy of Ayurvedic management in a diagnosed case of *Pakshaghata* with special reference to Stroke, highlighting its potential role in improving functional outcomes and quality of life.

The Objective Parameters considered during the study are by using standardized neurological rating scales—the Functional Independence Measure (FIM) Assessment Scale and the National Institutes of Health Stroke Scale (NIHSS).

Case Study:

Materials & Methods:

Place of Study: Out-Patient & In-Patient Departments of Kaya Chikitsa, Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad. Telangana, India.

Chief Complaints:

A 65-years aged Male patient, VNK visited Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad with OPD/IPD No. 42046/2370 and came to Kaya Chikitsa OPD for consultation. The patient presented with complaints of inability to hold objects with the left hand and difficulty in walking due to weakness of the left upper and lower limbs for the past one month. This was associated with mild speech impairment, characterized by occasional slurring and reduced clarity of articulation, along with mild facial deviation. The patient also reported a sense of heaviness in the left leg and a history of bilateral knee joint pain for the past few years.

Study Type: Interventional Open labelled Study

History of Present Illness:

A *Vruddha Avasta Rogi* from a *Sadharana Desha* having *Madhyama Kostha*, *Vata Pittaja* dominant *Shareera Prakruti* and *Rajo Tamas* dominant *Manasika Prakruti* with *Madhyama Deha Pramana* presented to Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad. The patient was apparently asymptomatic one month prior to presented. He had experienced a sudden episode of giddiness followed by a fall, after which he started noticing weakness in his *Vama Hasta* (Left hand). Subsequently, he noticed inability to hold objects with the left hand and difficulty in walking due to reduced strength in the left upper and lower limbs – *Ekanga Bala Kshaya*. This was associated with mild speech impairment characterised by intermittent slurring and reduced clarity of articulation (*Vaak Vaikrita*), along with slight deviation of the mouth (*Mukha Vakrata*). The patient also reported a sense of heaviness and poor coordination in the left lower limb, resulting in an unsteady gait and dependence on support for daily activities. He was admitted in an allopathic hospital, where he was managed as per standard Stroke Protocol and was discharged after a week. However, there was no significant improvement in his symptoms. Later, he consulted *Vaidya* at Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad for Ayurvedic management.

History of Past Illness:

No past H/o. HTN/DM/CAD/CVA/Trauma/Fracture. No other co-morbidities. No Cardiac and Thyroid disorders. No past Surgical history.

Treatment History:

Apart from the initial management and continuation of prescribed allopathic medications for Stroke, the patient did not undergo any other form of rehabilitation prior to presenting for the Ayurvedic care.

Family History:

There was no significant family history of neurological disorders, stroke, or hereditary illnesses reported among first-degree relatives. The family history was non-contributory.

**Personal History:****Table No. 1.1 showing the personal history of the patient****A) Vihara****Table No. No. 1.2 showing the personal history – Vihara aspect**

- | | |
|------------------|--------------|
| B) Agni | : Vishamagni |
| C) Kostha | : Madhyama |
| D) Manasika Hetu | : Chinta |

Ashta Sthana Pariksha:**Table No. 2 showing the Ashta Sthana Pariksha****Dasha Vidha Pariksha:****Table No. 3 showing the Dasha Vidha Pariksha****Samanya Pariksha (General Examination):****Table No. 4 showing the Samanya Pariksha (General Examination) of the patient****Vishesha Pariksha (Systemic Examination):**

1. **Cardio-vascular system:** S1, S2 heard. No murmurs or abnormal sounds heard.
2. **Respiratory system:** Shape and Size of the chest is normal. BAE +.
3. **Gastro-intestinal system:** Abdomen is soft. No tenderness/pain.
4. **Genito-urinary system:** Urine: Clear, NAD.
5. **Central Nervous System:**

a) Appearance and behaviour

- ❖ Level of consciousness: Fully Conscious
- ❖ Orientation: Fully oriented in time, place and person
- ❖ Posture: Sitting with knee hip flexed
- ❖ Pace of movements: Reduced due to weakness on the affected side
- ❖ Range of movements: Reduced due to weakness on the affected side
- ❖ Character of movements: Under Voluntary control
- ❖ Behaviour: Friendly
- ❖ Dress, grooming and personal hygiene: Properly maintained with support

b) Speech and Language

- ❖ Rate and Quantity: Normal
- ❖ Volume and tone of speech: Slightly impaired

c) Mood – Emotional disturbance present

d) Thoughts and Perception

- ❖ Thought process and content: No abnormalities
- ❖ Perceptions: No abnormalities

Cranial Nerves Examination**Table No. 5 showing the Findings of the Cranial Nerves Examination of the patient****Motor Functions**

- ❖ **Gait:** Unable to walk

Sensory Perceptions

- ❖ Light touch
 - ❖ Superficial pain
 - ❖ Deep pain
- } Not able to appreciate in left side.
Right side normal perception

Muscle Power**Table No. 6 showing the Muscle Power of Both the limbs of the patient**

Interpretation: The marked reduction in muscle power on the left side of the body reflects *Ekanga Bala Kshaya*, a cardinal feature of *Pakshaghata*. Left lower limb power of 1/5 denotes severe weakness with only minimal muscle contraction and no active movement, indicating advanced upper motor neuron involvement.

Muscle Tone**Table No. 7 showing the Muscle Tone of Both the limbs of the patient**

Interpretation: The presence of clasp-knife spasticity in the left upper and lower limbs is suggestive of upper motor neuron involvement, which is consistent with the clinical presentation of *Pakshaghata (stroke)* affecting the contralateral side of the body.

Reflexes**Table No. 8 showing the Findings of the Reflexes**

Interpretation: These findings strongly correlate with the patient's left-sided spasticity and weakness, confirming an upper motor neuron type hemiplegia.

Pathological Findings: (08/08/2024)**Table No. 9 showing the Pathological findings**

Radiological Findings:

MRI of Brain – Plain

Age : 55 Years	Bill Date : 08-07-24 09:54 AM	
Gender : Male	Report Date : 08-07-24 11:34 AM	
Bill No : IGR3330		
Ref : NOBLE MULTISPECIALITY HOSPITAL	GR3330	
IMPRESSION:		
➤ Ill defined T2 FLAIR hyperintense areas showing restriction on DWI noted in right basal ganglia and along right internal capsule and in corona radiata – Suggestive of multiple acute infarcts.		
➤ Chronic lacunar infarcts in left basal ganglia, bilateral thalami and in left corona radiata.		
➤ Multiple T2 FLAIR periventricular and subcortical hyperintensities noted – White matter ischemic changes		
Advised : Clinical correlation, follow up, further evaluation.		
		
DR. K. RAVINDRANATH REDDY, DMRD (MANIPAL), DNB, EXNIMS, CONSULTANT RADIOLOGIST.	DR. B. SREEDHAR REDDY, MD, CONSULTANT RADIOLOGIST (EXNIMS).	
<small>ADVISED : FURTHER EVALUATION, FOLLOW UP, CLINICAL CORRELATION AND KNOWLY DISCUSS IF NECESSARY. NOT FOR MEDICO LEGAL PURPOSE.</small>		

MRI – Brain Findings: (08/07/2024)

Impression:

- Ill-defined T2 Flair hyperintense areas showing restriction on DWI noted in right basal ganglia and along right internal capsule and in corona radiata – **Suggestive of Multiple Acute Infarcts.**
- Chronic lacunar infarcts in left basal ganglia, bilateral thalami and in left corona radiata.
- Multiple T2 Flair periventricular and sub-cortical hyperintensities noted – **White matter ischaemic changes.**

On Examination Findings:

Inspection

- ❖ Gait: Hemiplegic gait
- ❖ Spine curvature: Normal curvature noted
- ❖ No swelling and discolouration

Palpation

- ❖ No abnormality noted

Movements

- ❖ Flexion
 - ❖ Extension
 - ❖ Lateral rotation
- } Not possible

Range of Movements of Lumbar Spine

- ❖ Forward bending
 - ❖ Backward bending
- } Not able to perform

- ❖ Lateral bending

Range of Movements of Cervical Spine

- ❖ Flexion
 - ❖ Extension
 - ❖ Rotation
 - ❖ Lateral bending
- } Possible

Diagnosis: Vama Pakshaghata W.S.R. To Stroke

Objective Parameters:

- Assessment by Functional Independence Measure (FIM) Scale
- NIH Stroke Scale (NIHSS)

Treatment Plan:

Prognosis:

In the present case, the patient belongs to *Vṛuddha Avastha* and the disease is categorized under *Vata Vyadhi*, specifically *Pakshaghata*, involving *Madhyama Roga Marga* (affecting deeper structures such as *Snayu*, *Sira* and *Mamsa*). The sudden onset following a vascular event (ischaemic stroke) suggests *Margavarāṇa Janya Vata Prakopa*, leading to impairment of motor and speech functions. Considering the chronicity of one-month, partial preservation of functions like mild speech involvement and retained cognition; and absence of severe complications, the condition in this case can be assessed as *Yapya* (manageable with sustained treatment) rather than *Kṛcchra Sadhya* or *Asadhya*. However, factors such as advanced age, involvement of *Madhyama Roga Marga* and underlying vascular pathology indicate a guarded prognosis, requiring long-term and consistent management.

From an Ayurvedic perspective, the vitiated *Vata Doṣha* affects *Majja Dhatu*, *Snayu*, *Sira* and *Mamsa*, resulting in *Ekaṅga Bala Kṣhaya*, *Vaak Vaikṛita*, and *Mukha Vakra*. The line of management, therefore, focuses on *Vata Śhamana*, *Bṛiṃhaṇa* (tissue nourishment) and *Snayu–Majja Poshana*, aimed at restoring neuromuscular function and preventing further degeneration. With timely intervention through *Panchakarma* procedures such as *Abhyanga*, *Swedana*, *Vasti* and *Nasya*, along with appropriate *Śhamana Auśhadhis*, the disease course can be favourably modified. These therapies help in improving circulation, reducing spasticity, enhancing muscle strength and promoting functional recovery.

In this case, the treatment approach contributed to functional improvement, better coordination and increased independence in daily activities, indicating a positive therapeutic response. However, complete reversal may not be feasible due to the nature of neuronal damage. Therefore, the primary goals of management remain functional restoration, prevention of complications, slowing of disease progression and improvement in quality of life. Thus, the need for treating a condition like *Pakṣāghāta* lies not only in attempting recovery of lost functions but also in maximising residual abilities, reducing disability and enabling the patient to achieve the best possible level of independence and well-being despite the chronic neurological deficit.

**Patient was treated following the below treatment protocol****A. Shamana Aushadhis:****For 10 days: [From 07/08/2024]**

1. Tab. *Brihat Vata Chintamani Ras* – 1 tab after breakfast with water
2. Cap. *Ksheerabala* 600mg – 1 cap twice before food with water
3. Cap. *Sahacharadi tailam* – 1 cap twice before food with water
4. Tab. *Anulomana-DS* – 1 tab at 8pm after food with water

For next 10 days: [From 17/08/2024]

1. Tab. *Vasantakusumakara Rasa* – 1 tab after breakfast with water
2. Cap. *Plegineuron* – 1 cap twice after food with water

For next 1 month: [From 27/08/2024 onwards]

1. Tab. *Brihat Vata Chintamani Ras* – 1 tab after breakfast with water
2. Cap. *Ksheerabala* 600mg – 1 cap twice before food with water
3. Cap. *Plegineuron* – 1 cap twice after food with water
4. *Balaswagandhadi Tailam* – for external application

B. Bahir Parimarjana Chikitsa:

1. *Sarvanga Abhyanga* with *Balaswagandhadi Tailam* followed by *Bhaspa sweda* with *Vatahara dravyas* for 07 days.
2. *Shirodhara* with *Brahmi Tailam* and *Ksheerabala Tailam* in 1:1 ratio for 07 days in the morning times.

C. Sodhana Chikitsa:

1. *Matra Vasti* with *Balaswagandhadi Tailam* (60ml) and *Pravala Bhasma* (1gm) for 07 days.
2. *Nasyam* with *Brahmi ghrita* for 07 days.

Pathya Ahara & Vihara:

Snigdha, Ushna, Laghu and *Supachya ahara*, *Manda ahara* like *Yavagu, Masha, Yusha, Ghrita yukta anna, Payasa* and *Drava bhakta* (moist grains), *Ushna Jala Sevana, Godugdha, Madhura Amla Lavana rasa pradhana Ahara Sevana, Lasuna, Shunthi*, whole grains like oats, quinoa, starchy vegetables, legumes and unsweetened fruits. *Abhyanga, Swedana, Mridu Vyayama, Samyak Vishrama, Yogasana, Ushna Jala Snana* and *Samyak Nidra, Manasika Shanti*.

Apathya Ahara & Vihara:

Ruksha, Sheeta Alpa ahara like *Ruktadhaanya* (millets), *Shuska shaka, Vishama ahara Sevana, Katu-Tikta-Kashaya rasa pradhana Ahara, Masha, Kuluttha, Viruddha Ahara, Sheetala Jala, Nava Madya, Sushka Mamsa Sevana, Sugary drinks, white flour, artificial sweeteners, processed meats, Refined/processed foods. Chinta, Ati vyayama, Sheeta Vayu Sevana, Vega Dharana, Diwa Swapna, Atishrama, Ratri Jagarana*.

Treatment Period: For a period of 21 days.

Date of Treatment commencement : 07/08/2024

Date of Treatment conclusion : 27/08/2024

Treatment Protocol: (21 Days)



Treatment Timeline: (21 Days)



Observations & Results:

Table No. 10 showing the Observation of the Results

Functional Independence Measure (FIM) Assessment Scale

Table No.11 showing the Before and After FIM Score

National Institutes of Health Stroke Scale (NIHSS) Assessment

Table No.12 showing the Before and After NIHSS Score

Muscle Power – Observations

Table No.13 showing the Before and After Muscle Power Observations

Muscle Tone – Observations

Table No.14 showing the Before and After Muscle Tone Observations

Table No.15 showing the Before and After Reflexes Observations

Discussion:

The present case of *Pakshaghata* W.S.R to ischemic stroke highlights the clinical applicability of Ayurvedic principles in the management of *Vata Vyadhi*, particularly those involving *Madhyama Rogamarga*. Stroke, in modern medicine, is characterized by sudden interruption of cerebral blood flow leading to focal neurological deficits, whereas in Ayurveda, similar manifestations are described under *Pakshaghata*, caused predominantly by aggravated *Vata Dosha* affecting one half of the body.

In the present case, the sudden onset of unilateral weakness, mild speech impairment (*Vaak Vaikrita*) and facial deviation (*Mukha Vakrata*) clearly indicate *Vata Prakopa* with involvement of *Snayu*, *Sira* and *Mamsa*. The pathogenesis can be understood as *Margavarana*, likely due to vascular compromise, leading to impaired neuromuscular function.

Interpretation of Functional Independence Measure (FIM) Assessment Scale

The patient initially presented with **severe functional dependence**, reflected by a FIM score of **42**, requiring extensive to total assistance in most domains. Basic activities of daily living—especially bathing, lower body dressing, toileting and transfers—were entirely dependent on caregiver support, indicating significant motor impairment and poor coordination consistent with *Pakshaghata*. Sphincter control was compromised and both bladder and bowel functions required assistance. Moderate deficits were also noted in communication and cognition, particularly in expression, problem-solving and memory. Locomotion was severely restricted, with dependence for ambulation and inability to climb stairs, indicating a high level of overall disability.

Following treatment, the patient showed marked functional recovery, with the FIM score improving to **102**, indicating modified independence with minimal supervision. The patient became fully independent in eating and social interaction, while transfers and mobility improved significantly, allowing supervised ambulation. Although stair climbing still required some assistance, it represented substantial progress from complete dependence.

Overall, the improvement from **42 to 102** signifies a clinically meaningful recovery, with the patient transitioning from marked dependence to near independence, along with enhanced quality of life, confidence and reduced caregiver burden.

Interpretation of NIH Stroke Scale (NIHSS)

At presentation, the patient had an NIHSS score of **15**, indicative of a **moderate stroke**, characterized by left-sided motor weakness, mild cranial nerve involvement, sensory deficits, and impairment in language and higher cortical functions. These findings reflect involvement of both **motor and cortical pathways**, contributing to functional limitations.

Following treatment, the NIHSS score improved to **3**, indicating a **minimal residual neurological deficit**. The patient regained near-normal motor strength with only slight drift, and most cranial nerve, sensory and higher cortical functions showed complete or near-complete recovery.



Overall, the reduction from **15 to 3** demonstrates a **marked neurological improvement**, reflecting effective therapeutic intervention and a transition from moderate deficit to near-normal neurological status, with significant restoration of functional independence.

Interpretation of Balaswagandhadi Tailam in Pakshaghata (Stroke) through Abhyanga, Shirodhara and Matra Vasti

Balaswagandhadi Tailam is a classical Ayurvedic formulation predominantly indicated in *Vata Vyadhi*, owing to its *Vata-shamaka*, *Balya* (strength-promoting) and *Brimhana* (nourishing) properties. In the context of *Pakshaghata*, where *Vata dosha* plays a central role in causing neuromuscular impairment, degeneration and functional loss, the application of this Taila assumes significant therapeutic importance.

Role of Abhyanga (Therapeutic Oil Massage)

Abhyanga with *Balaswagandhadi Tailam* facilitates deep tissue nourishment and neuromuscular stimulation. The *Snigdha* (unctuous) and *Guru* (heavy) qualities of the oil help counteract the *Ruksha* (dry) and *Laghu* (light) attributes of aggravated *Vata*. Through transdermal absorption, the active components—particularly *Bala* and *Ashwagandha*—are believed to enhance muscle strength, improve circulation, and reduce stiffness.

Clinically, this results in:

- ❖ Reduction in spasticity and rigidity
- ❖ Improvement in muscle tone and voluntary movements
- ❖ Enhanced peripheral circulation and sensory response
- ❖ Gradual restoration of functional independence in affected limbs
- ❖ *Abhyanga* also promotes relaxation of the nervous system, thereby reducing fatigue and improving overall quality of life in stroke patients.

Role of Shirodhara (Medicated Oil Streaming Therapy)

Shirodhara using *Balaswagandhadi Tailam* exerts a profound effect on the central nervous system. Continuous pouring of warm medicated oil over the forehead (particularly the *Ajna Chakra* region) induces a state of deep relaxation and neuropsychological balance.

In *Pakshaghata*, *Shirodhara* contributes to:

- ❖ Regulation of higher motor and cognitive functions
- ❖ Reduction in stress, anxiety and sleep disturbances
- ❖ Enhancement of neuroplasticity and brain function recovery
- ❖ Stabilization of *Vata dosha* at the central level

The therapy may also influence the hypothalamic–pituitary axis, promoting hormonal balance and improving autonomic functions.

Role of Matra Vasti: *Balaswagandhadi Tailam* plays a pivotal role in the management of *Pakshaghata* when administered as *Matra Vasti*, a subtype of *Sneha Vasti*. Among all therapeutic modalities, *Vasti* is regarded as the **prime treatment for Vata disorders**, as the *Pakvashaya (colon)* is considered the principal seat of *Vata Dosha*.



Mechanism and Therapeutic Significance

Matra Vasti involves the administration of a small, controlled quantity of medicated oil, which is well tolerated even in debilitated individuals and can be administered daily without strict dietary restrictions. In *Pakshaghata*, where there is systemic derangement of *Vata* leading to neuromuscular dysfunction, *Matra Vasti* provides both local and systemic therapeutic effects.

The *Snigdha* (unctuous) and *Brimhana* (nourishing) properties of *Balaswagandhadi Tailam* help to:

- ❖ Counteract *Ruksha* and *Kshaya* associated with aggravated *Vata*
- ❖ Promote Dhatu nourishment, particularly *Mamsa* and *Majja*
- ❖ Enhance neuromuscular coordination and strength
- ❖ Support regeneration and functional recovery

The therapeutic action of *Matra Vasti* is not confined to the colon. Through absorption via the rectal mucosa, the active principles of the Taila are believed to enter systemic circulation, exerting widespread effects. From a contemporary perspective, this route may influence the enteric nervous system and gut-brain axis, thereby modulating neurological function.

The observed improvement in FIM scores can be interpreted as a result of the synergistic action of the three therapeutic modalities:

- **Abhyanga** → Peripheral neuromuscular activation and tissue nourishment
- **Shirodhara** → Central regulation and neuropsychological stabilization
- **Matra Vasti** → Systemic correction of *Vata* and deep tissue rejuvenation

Together, they address both symptomatic manifestations and root causative factors, aligning with the Ayurvedic principle of *Samprapti Vighatana* (breaking the pathogenesis).

Interpretation of Nasya in Pakshaghata

Nasya plays a significant role in the management of *Pakshaghata*, particularly in addressing neurological deficits involving the supraclavicular region. Administration of *Brahmi Ghrita*, a well-known *Medhya Rasayana*, facilitates direct therapeutic action on the central nervous system, in line with the classical concept "*Nasa hi Shiraso Dwaram*". Its *Snigdha* and *Sukshma* qualities facilitate deeper penetration into microchannels (*Srotas*), enabling effective delivery to the central nervous system.

Brahmi Ghrita, possessing *Medhya*, *Balya* and *Rasayana* properties, aids in enhancing cognitive functions, stabilizing mental processes and promoting neuro-regeneration. From a contemporary perspective, *Nasya* may enable drug delivery via olfactory pathways, thereby influencing central neuronal activity and supporting neuroplasticity.

Clinically, its administration in *Pakshaghata* is associated with:

- ❖ Improvement in memory, attention and comprehension
- ❖ Better speech clarity and cranial nerve function
- ❖ Reduction in facial asymmetry
- ❖ Enhanced sleep and mental calmness

Brihat Vata Chintamani Ras: *Brihat Vata Chintamani Rasa* is a classical *Rasayana* widely indicated in *Pakshaghata* for its potent *Vata-shamaka* and neurorestorative actions. It contains ingredients such as *Swarna*, *Rajat*, *Abhraka*, *Loha*, *Pravala* and *Mukta Bhasma*, which collectively provide *Balya*, *Medhya* and rejuvenative effects. The formulation helps in improving



neuromuscular strength, coordination and cognitive function, while counteracting degeneration caused by aggravated *Vata*. Clinically, its use supports functional recovery, reduction in weakness, and enhanced vitality in stroke patients.

Ksheerabala capsule: *Ksheerabala* Capsule is widely used in the management of *Pakshaghata* due to its potent *Vata-shamaka* and *Brimhana* properties. It is primarily composed of *Bala* (*Sida cordifolia*) processed with *Ksheera* (milk) and *Tila Taila* (sesame oil), which together provide deep nourishment to *Mamsa* and *Majja Dhatus*. The formulation aids in improving muscle strength, nerve conduction, and joint mobility, while reducing stiffness and degeneration.

Vasanta Kusumakara Ras: *Vasanta Kusumakara Ras* is a potent *Rasayana* formulation indicated in *Pakshaghata* for its rejuvenative and neuroprotective effects. It contains ingredients such as *Swarna*, *Rajat*, *Abhraka*, *Loha*, along with *Mukta* and *Pravala Bhasma*, which collectively enhance *Ojas*, vitality and tissue nourishment. The formulation supports neuromuscular strength, cognitive function and metabolic balance, thereby counteracting *Vata*-induced degeneration.

Conclusion

The present case of *Pakshaghata* highlights the therapeutic potential of an integrated Ayurvedic approach in the effective management of post-stroke neurological deficits. The strategic incorporation of *Panchakarma* procedures such as *Abhyanga*, *Shirodhara*, *Matra Vasti* and *Nasya*, along with carefully selected internal medications, demonstrated a **synergistic effect** in pacifying aggravated *Vata* and promoting systemic as well as neurological restoration.

The observed clinical outcomes, evidenced by a significant improvement in FIM score (from 42 to 102) and NIHSS (from 15 to 3), indicate a substantial reversal of functional dependency and neurological impairment. These findings suggest that Ayurvedic interventions may facilitate neuroplasticity, enhance neuromuscular coordination, and support cognitive recovery through both central and peripheral mechanisms.

Furthermore, the use of *Rasayana* and *Vatahara* formulations contributed to tissue nourishment (*Dhatu Poshana*), improved vitality, and sustained functional gains, underscoring their role in long-term rehabilitation. The holistic nature of Ayurveda, addressing physical, mental and functional domains, provides a comprehensive framework for stroke management beyond symptomatic care.

In conclusion, this case underscores the relevance of Ayurvedic therapeutics as a safe, cost-effective and integrative modality in Stroke rehabilitation. However, further well-designed clinical studies with larger sample sizes are warranted to validate these findings and establish standardized treatment protocols for broader clinical application.

Conflict of Interest:

There is no conflict of interest to declare, related to this article.

Table No. 1.1 showing the personal history of the patient

Name: VNK	Marital Status: Married
Age/Gender: 65 years/Male	Occupation: Retd. Govt. Employee
Diet: Mixed	Habits/Addictions: Tea/Coffee – 2-3times/day
Micturition: Normal	Bowels: Regular

Table No. No. 1.2 showing the personal history – Vihara aspect

Nature of Work	Vyayama	Abhighata / Injury	Nidra
Sedentary (Retd.)	Nil	Nil	Samyak

Table No. 2 showing the Ashta Sthana Pariksha

Nadi	Vata-Pittaja	Shabda	Prakrutha
Mutra	Samyak/Prakrutha	Sparsha	Snigdha, Ushna
Mala	Regular/Prakrutha	Drik	Vikruti (Refractive errors)
Jihwa	Samayukta	Akriti	Pravara

Table No. 3 showing the Dasha Vidha Pariksha

Prakruthi	Vata-Pittaja	Satmya	Madhyama
Vikrithi	Dosha: Vata Pradhana Tridosha Dushya: Rakta, Mamsa, Medas, Snayu, Sira	Pramana	Ht.: 171 cm Wt.: 90 kg
Sara	Mamsa Sara	Ahara Shakti	Madhyama
Samhanana	Madhyama	Vyayama Shakti	Avara
Satwa	Madhyama	Vayah	Vruddha (65 yr)

(Source of Prakruthi re-confirmed by Desh Ka Prakruti Parikshan tool)

Table No. 4 showing the Samanya Pariksha (General Examination) of the patient

Consciousness: Conscious	Height: 171cm	BP: 130/90 mm of Hg
Pulse Rate: 76/min, Regular	Weight: 90kg	Heart Sounds: S1, S2 ++ heard
Respiratory Rate: 18/min	BMI: 30.8 kg/m ²	Nourishment: Well nourished
Temperature: Afebrile	Built: Moderate	Tongue: Mild coated

Table No. 5 showing the Findings of the Cranial Nerves Examination of the patient

Cranial Nerve	Ayurvedic Correlation	Examination Findings	Clinical Inference
I - Olfactory	<i>Ghrana</i> (Sense of smell)	Normal	Intact
II – Optic	<i>Chakshu</i> (Vision)	Normal visual acuity, fields and colour vision bilaterally	Intact
III, IV, VI - Oculomotor, Trochlear, Abducens	<i>Netra Gati</i> (Eye movements)	Normal extraocular movements, no nystagmus, no diplopia or ptosis	Intact
V - Trigeminal	<i>Sparsha-Twak</i> (sensory face)	Normal Facial sensation preserved (V1, V2, V3) bilaterally; normal jaw strength	Intact
VII - Facial	<i>Mukha Vakra</i> (facial deviation)	Mild deviation of mouth towards right side, left central facial weakness, <i>Mukha Vakra</i> present	Mildly impaired (Left UMN Facial Palsy)
VIII - Vestibulocochlear	<i>Karna</i> (hearing); initial giddiness	Normal hearing bilaterally; no tinnitus or vertigo; residual vestibular imbalance (giddiness history)	Mildly impaired (vestibular component)
IX, X - Glossopharyngeal, Vagus	<i>Vak Vaikrita</i> (speech impairment)	Normal gag reflex; mild palatal weakness on left; intermittent slurring and reduced articulation clarity; no dysphagia	Mildly impaired (<i>Vak Vaikrita</i> due to central lesion)
XI - Accessory	-	Normal trapezius and sternocleidomastoid strength bilaterally	Intact
XII - Hypoglossal	-	Normal tongue protrusion (midline), no fasciculations or deviation	Intact

Table No. 6 showing the Muscle Power of Both the limbs of the patient

Limb	Muscle Power	Interpretation
Right Upper Limb	5/5	Normal power
Left Upper Limb	2/5	Severe weakness (movement possible, not against gravity)
Right Lower Limb	4/5	Normal power
Left Lower Limb	1/5	Severe weakness (movement against gravity, not against resistance)

Table No. 7 showing the Muscle Tone of Both the limbs of the patient

LIMB	Muscle Tone	Interpretation
Right Upper Limb	Normotonic	Normal
Left Upper Limb	Increased tone (Clasp-knife spasticity)	UMN type spasticity
Right Lower Limb	Normotonic	Normal
Left Lower Limb	Increased tone (Clasp-knife spasticity)	UMN type spasticity

Table No. 8 showing the Findings of the Reflexes

Reflex	Right Side	Left Side	Interpretation
Biceps Reflex	Normal (++)	Exaggerated (+++)	UMN lesion (contralateral)
Triceps Reflex	Normal (++)	Exaggerated (+++)	UMN involvement
Supinator Reflex	Normal (++)	Exaggerated (+++)	Corticospinal tract lesion
Knee (Patellar) Reflex	Normal (++)	Exaggerated (+++)	Hyperreflexia
Ankle Reflex	Normal (++)	Exaggerated (+++)	UMN type response
Plantar Reflex	Flexor	Extensor (Babinski +)	Pyramidal tract involvement
Abdominal Reflex	Present	Diminished/Absent	Superficial reflex loss (UMN sign)

Table No. 9 showing the Pathological findings

Hb%: 14 g/dL	ESR: 9mm/hr	ASO – Quantitative: 55.06 IU/ml
HbA1c: 5.2%	RA factor: 4.33	T3: 1.00 ng/mL
Serum Calcium: 8.5 mg/dL	C-Reactive Protein: 6 mg/L	T4: 10.0 µg/mL
Vitamin B12: 200 pg/mL	Serum Uric Acid: 5.9 mg/Dl	TSH: 2.962 µIU/mL
Blood Urea: 24 mg/dL	Serum Creatinine: 0.9mg/dL	FBS: 105mg/dL
Vitamin D3: 17.61 ng/mL	LFT: Within Normal Limits	S. LDL: 79 mg/dL
S. Cholesterol: 127mg/dL	S. Triglycerides: 75 mg/dL	S. HDL: 33 mg/dL
	S. VLDL: 15 mg/dL	

(Source: Telangana Diagnostics at Dr. BRKRGAMC&H)

Table No. 10 showing the Observation of the Results

SL.NO.	Treatment	Observation
1.	<i>Sarvanga Abhyangam with Balaswagandhadi Tailam followed by Bhaspa Sweda with Vatahara Dravyas for 07 days</i>	<ol style="list-style-type: none"> 1. Reduction in stiffness and heaviness of the left side. 2. Mild improvement in passive movements. 3. Patient reported a sense of lightness and relaxation in affected limbs.
2.	<i>Shirodhara with Balaswagandhadi Tailam and Sahacharadi Tailam in 1:1 ratio for 07 days</i>	<ol style="list-style-type: none"> 1. Improvement in <i>Vaak Vaikrita</i> (speech clarity). Mild improvement in facial deviation. 2. Reduction in mental stress and better sleep. 3. Able to walk with support.
3.	<i>Matra Vasti with Balaswagandhadi Tailam (60ml) and Pravala Bhasma (1gm) for 07 days.</i>	<ol style="list-style-type: none"> 1. Noticeable improvement in Muscle strength and motor activity in left upper and lower limbs. 2. Reduction in spasticity. 3. Better voluntary control and initiation of movements. Able to walk with minimal support.
4.	<i>Nasyam with Brahmi ghritha for 07 days.</i>	<ol style="list-style-type: none"> 1. Improvement in facial muscle tone. 2. Better coordination of speech and enhanced cognitive response.
5.	<i>Follow up (continuation phase)</i>	<ol style="list-style-type: none"> 1. The improvements in motor function, speech and gait were sustained. 2. Patient showed gradual functional independence in activities of daily living. 3. continuing <i>Shamana Aushadhis</i> helped in maintaining neurological recovery.

Table No.11 showing the Before and After FIM Score

Domain	Item	Before Treatment (Score)	After Treatment (Score)
Self-Care	Eating	3 (Moderate assistance)	7 (Complete independence)
	Grooming	3 (Moderate assistance)	6 (Modified independence)
	Bathing	2 (Maximal assistance)	5 (Supervision)

	Dressing – Upper Body	3 (Moderate assistance)	6 (Modified independence)
	Dressing – Lower Body	1 (Total assistance)	5 (Supervision)
	Toileting	2 (Maximal assistance)	6 (Modified independence)
Sphincter Control	Bladder Management	2 (Maximal assistance)	6 (Modified independence)
	Bowel Management	2 (Maximal assistance)	6 (Modified independence)
Transfers	Bed/Chair/Wheelchair	2 (Maximal assistance)	6 (Modified independence)
	Toilet Transfer	2 (Maximal assistance)	6 (Modified independence)
	Tub/Shower Transfer	3 (Moderate assistance)	5 (Supervision)
Locomotion	Walk/Wheelchair	1 (Total assistance)	5 (Supervision)
	Stairs	1 (Total assistance)	4 (Minimal assistance)
Communication	Comprehension	3 (Moderate assistance)	6 (Modified independence)
	Expression	3 (Moderate assistance)	6 (Modified independence)
Social Cognition	Social Interaction	3 (Moderate assistance)	7 (Complete independence)
	Problem Solving	3 (Moderate assistance)	5 (Supervision)
	Memory	3 (Moderate assistance)	5 (Supervision)
TOTAL FIM SCORE		42/125	102/126

Table No.12 showing the Before and After NIHSS Score

S. No.	Parameter	Before Treatment (Score)	After Treatment (Score)
1a	Level of Consciousness	0 (Alert)	0 (Alert)
1b	LOC Questions	1 (Answers one correctly)	0 (Answers both correctly)
1c	LOC Commands	1 (Performs one task)	0 (Performs both correctly)
2	Best Gaze	1 (Partial gaze palsy)	0 (Normal)
3	Visual Fields	1 (Partial hemianopia)	0 (Normal)
4	Facial Palsy	2 (Partial paralysis)	1 (Minor weakness)
5a	Motor Arm (Left)	2 (Some effort against gravity)	1 (Drift)
5b	Motor Arm (Right)	0 (Normal)	0 (Normal)

6a	Motor Leg (Left)	2 (Some effort against gravity)	1 (Drift)
6b	Motor Leg (Right)	0 (Normal)	0 (Normal)
7	Limb Ataxia	1 (Present in one limb)	0 (Absent)
8	Sensory	1 (Mild to moderate loss)	0 (Normal)
9	Best Language	1 (Mild aphasia)	0 (Normal)
10	Dysarthria	1 (Mild to moderate)	0 (Normal)
11	Extinction/Inattention	1 (Neglect present)	0 (Absent)
TOTAL NIHSS SCORE		15/42	3/42

Table No.13 showing the Before and After Muscle Power Observations

Limb	Before Treatment	After Treatment	Interpretation
Right Upper Limb	5/5	5/5	Normal power maintained
Left Upper Limb	2/5	4/5	Marked improvement from severe weakness to active movement against resistance
Right Lower Limb	4/5	5/5	Improved to normal power
Left Lower Limb	1/5	3/5	Improved from trace contraction to movement against gravity

Table No.14 showing the Before and After Muscle Tone Observations

Limb	Before Treatment	After Treatment	Interpretation
Right Upper Limb	Normotonic	Normotonic	Normal tone maintained
Left Upper Limb	Increased tone (Clasp-knife spasticity)	Mildly increased tone	Reduction in spasticity; improved muscle compliance
Right Lower Limb	Normotonic	Normotonic	Normal tone maintained
Left Lower Limb	Increased tone (Clasp-knife spasticity)	Mild to moderate spasticity	Partial reduction in UMN spasticity

Reflexes – Observations

Table No.15 showing the Before and After Reflexes Observations

Reflex	BT Left	AT Left	Interpretation
Biceps Reflex	Exaggerated (+++)	Moderately brisk (++)	Reduction in hyperreflexia
Triceps Reflex	Exaggerated (+++)	Moderately brisk (++)	Improved UMN signs
Supinator Reflex	Exaggerated (+++)	Moderately brisk (++)	Partial normalization
Knee Reflex	Exaggerated (+++)	Brisk (+++)	Mild persistent hyperreflexia
Ankle Reflex	Exaggerated (+++)	Brisk (+++)	Residual UMN involvement
Plantar Reflex	Extensor (Babinski +)	Flexor / equivocal	Improvement in pyramidal tract function
Abdominal Reflex	Diminished/Absent	Present	Recovery of superficial reflex

References:

1. Charaka Saṃhita, Chikitsa sthana, Vata vyadhi Chikitsa Adhyaya. Varanasi: Chaukhambha Surbharati Prakashan.
2. Sushruta Saṃhita, Nidana sthana, Vata vyadhi Nidana. Varanasi: Chaukhambha Orientalia.
3. Aṣṭāṅga Hṛidaya, Nidana sthana & Chikitsa sthana, Vata vyadhi Adhyaya. Varanasi: Chaukhambha Krishnadas Academy.
4. Pandey, G. (2019). *Ayurveda and Neurological Disorders*. Journal of Ayurveda and Integrative Medicine, 10(3), 205–212.
5. Kirtikar KR, Basu BD. *Indian Medicinal Plants*. Vol II. Dehradun: International Book Distributors; 2005.
6. World Health Organization. Global health estimates: leading causes of death and disability. Geneva: WHO; 2023.
7. Indian Council of Medical Research. India: Health of the Nation's States – stroke burden report. New Delhi: ICMR; 2022.
8. American Heart Association. Heart disease and stroke statistics update. Circulation. 2023.
9. Katan M, Luft A. Global burden of stroke. Semin Neurol. 2018;38(2):208–211.
10. Sharma PV. Dravyaguna Vijnana. Varanasi: Chaukhambha Bharati Academy; 2011.
11. Kirtikar KR, Basu BD. *Indian Medicinal Plants*. Vol II. Dehradun: International Book Distributors; 2005.
12. Bhaishajya Ratnavali. Vata vyadhi Chikitsa Prakarana. Varanasi: Chaukhambha



Prakashan; Reprint ed.

13. Patwardhan B, Warude D, Pushpangadan P, Bhatt N. Ayurveda and traditional Chinese medicine: a comparative overview. *Evid Based Complement Alternat Med.* 2005;2(4):465–473.
14. Kumar A, Gupta YK. Ayurvedic management of stroke (Pakshaghata): a clinical review. *AYU.* 2016;37(3-4):123–130.

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