



Case Study

AYURVEDIC MANAGEMENT OF PAKSHAGHATA (HEMIPARESIS) FOLLOWING ISCHAEMIC AND HAEMORRHAGIC STROKE: A COMPARATIVE CARE-COMPLIANT CASE REPORT

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ABSTRACT

Pakshaghata, classified among the *Nanatmaja Vatavyadhi* in Ayurveda, clinically corresponds to hemiparesis resulting from cerebrovascular accidents. Stroke-related hemiparesis remains a major cause of long-term disability despite advances in conventional care. Two male patients diagnosed with *Pakshaghata* were managed using personalized Ayurvedic interventions. Subject A (60 years) presented with left-sided hemiparesis following ischaemic stroke, while Subject B (44 years) had right-sided hemiparesis following haemorrhagic stroke. Both underwent a 30-day treatment protocol comprising *Shamana* medications based on Bengal school of Ayurveda and *Shodhana chikitsa*, including *Madhutailika Yapana Basti*, *Snehana*, *Swedana*. Both patients demonstrated clinically meaningful improvement in muscle power, tone, joint mobility, gait, and speech articulation, with greater improvement observed in Subject B. No adverse events were noted. This comparative case report suggests that structured Ayurvedic management, particularly Bengal school based *Shamana chikitsa* with *Basti*-based interventions, may play a beneficial role in post-stroke hemiparesis rehabilitation. Larger controlled studies are warranted.

INTRODUCTION

Stroke is a leading cause of long-term neurological disability worldwide and contributes substantially to morbidity, particularly in low- and middle-income countries.^[1] It is defined as a sudden onset of focal or global cerebral dysfunction of vascular origin, persisting beyond 24 hours or resulting in death.^[2] The two principal subtypes, ischaemic and haemorrhagic stroke, commonly result in hemiparesis, speech disturbance, and gait impairment.^[3] Hemiparesis denotes unilateral weakness of voluntary muscles due to damage to the corticospinal tract above the level of decussation. Lesions involving the cerebral cortex, internal capsule, brainstem, or upper cervical spinal cord typically produce motor weakness associated with dysarthria, altered tone, exaggerated reflexes, and abnormal gait.^[3] Functional outcome is determined by lesion location, extent of neuronal

injury, and the timing and effectiveness of rehabilitation.^[4] Despite advances in acute management and neurorehabilitation, many stroke survivors continue to experience persistent motor deficits that restrict daily activities and reduce quality of life.^[5] Conventional rehabilitation relies on physiotherapy, occupational therapy, speech therapy, and pharmacological control of spasticity and vascular risk factors. Although these strategies improve outcomes, recovery is often incomplete, particularly in elderly patients, those with delayed rehabilitation, recurrent cerebrovascular events, or comorbid conditions such as hypertension and diabetes mellitus.^[5] This continuing burden has stimulated interest in integrative approaches that may complement standard care and enhance neurofunctional recovery.^[6]

In Ayurveda, hemiparesis is correlated with *Pakshaghata*, a *Nanatmaja Vatavyadhi* arising from vitiated *Vata dosha* affecting *Sira*, *Snayu*, and *Sandhi*, manifesting as *Cheshta Nivrutti* (loss of voluntary movement), *Vakstambha* (speech impairment), and pain.^[7] The condition is classified under *Madhyama Rogamarga*, indicating involvement of deeper tissues and vital structures.^[8] Sushruta describes *Pakshaghata*

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as a *Maha Vatavyadhi*, particularly severe when associated with *Dhatu Kshaya*,^[9] and *Bhavaprakasha* notes poorer prognosis in elderly and debilitated patients.^[10] Management focuses on *Samprapti Vighatana* through *Vata Shamana*, *Brimhana*, and *Rasayana* strategies.^[7] Among Panchakarma therapies, *Basti* is regarded as the principal intervention for *Vatavyadhi* and is described as "*Ardha Chikitsa*".^[7] *Yapana Basti*, especially *Madhutailika Basti*, combines *Shodhana* and *Rasayana* actions and is considered suitable for chronic neurological disorders.^[11] However, comparative documentation of ischaemic and haemorrhagic stroke managed using a uniform Ayurvedic protocol remains limited.^[12,13] By introducing *Shamana chikitsa* (internal medication) of the Bengal school of Ayurveda, the current CARE-compliant case report aims to address this gap within an integrative clinical framework.

Patient Information

Subject A

A 60-year-old male presented with left-sided weakness for three months. He had a documented history of ischaemic cerebrovascular accident confirmed by computed tomography and was admitted on 12.02.2025 for integrative Ayurvedic management. He was a known case of hypertension and type 2 diabetes mellitus on irregular conventional medication. There was no history of recurrent stroke, seizures, head injury, or cognitive decline. Personal history revealed reduced sleep, normal appetite, regular micturition, and chronic constipation. He was a non-smoker and non-alcoholic. Family history was non-contributory.

On examination, the patient was conscious, cooperative, and oriented. Vital signs were stable: blood pressure 126/76 mmHg, pulse 82/min, respiratory rate 18/min, oxygen saturation 99% on room air, and temperature 98.4°F. No pallor, icterus, cyanosis, clubbing, oedema, or lymphadenopathy was observed.

Subject B

A 44-year-old male presented with right-sided weakness and slurred speech for one month. He had a recent haemorrhagic cerebrovascular accident involving the left cerebral hemisphere confirmed by computed tomography and was admitted on 08.10.2025 for inpatient Ayurvedic care. He was a known case of hypertension and type 2 diabetes mellitus on regular allopathic medication and had a history of chronic alcohol consumption for approximately 24 years. There was no prior history of stroke, epilepsy, or head injury. Personal history revealed normal sleep and appetite, regular micturition, and constipation. Family history was non-significant.

On examination, the patient was conscious, alert, and oriented. Vital parameters were stable: blood pressure 130/90 mmHg, pulse 78/min, respiratory rate 18/min, oxygen saturation 98% on room air, and temperature 96.7°F. No clinical signs of anaemia, cyanosis, clubbing, oedema, or lymphadenopathy were noted. Both the patients were admitted in the IPD of the Institute of Post Graduate Ayurvedic Medical College & Hospital, Kolkata- 700009 (IPGAER) under the supervision of the corresponding author.

Clinical Findings

General and Systemic Examination

Both patients were moderately built and nourished. Tongue examination revealed coating in both cases, suggestive of impaired digestion. Skin examination was normal. Cardiovascular examination revealed normal first and second heart sounds with no murmurs. Respiratory system examination showed bilateral equal air entry with clear lung fields.

Central nervous system examination in both cases revealed intact higher mental functions. Cranial nerve examination was normal. Pupils were bilaterally equal and reactive to light. Cerebellar signs including ataxia, dysmetria, and hypotonia were absent. There were no signs suggestive of meningeal irritation.

Neurological Examination and Functional Status

Both patients exhibited a hemiplegic gait corresponding to the side of weakness.

Subject A

- Left upper limb weakness with inability to lift the arm beyond approximately 40 degrees.
- Muscle power graded as 2/5 on the affected side.
- Increased muscle tone graded as 2/5.
- Dysarthria was present and graded as severe.
- Deep tendon reflexes were exaggerated on the affected side, with biceps reflex graded 3–4/5.

Subject B

- Right upper limb weakness with inability to lift the arm beyond approximately 30 degrees.
- Muscle power graded as 2/5 on the affected side.
- Increased muscle tone graded as 2/5.
- Dysarthria was severe.
- Biceps reflex on the affected side was graded as 4/5.

Laboratory and Imaging Findings

Routine haematological and biochemical investigations were conducted in both patients to assess systemic status and comorbid conditions. Subject A showed reduced haemoglobin levels with controlled glycaemic status, while Subject B had values within acceptable limits. Urine examination was normal in both cases. Computed tomography of the brain revealed features consistent with ischaemic stroke in subject A and haemorrhagic stroke in Subject

B, correlating with the clinical presentation and neurological deficits.

Subject-A

Hb- 8.8mg/dl, RBC- 3.45, WBC- 6000 cu/mm, MCV- 25.56, PCV- 25.8, ESR- 19, Platelet count- 2.8 L/Cumm; FBS- 130mg/dl, PPBS- 200mg/dl, HbA_{1c}- 6.1; Urine examination- within normal limit.

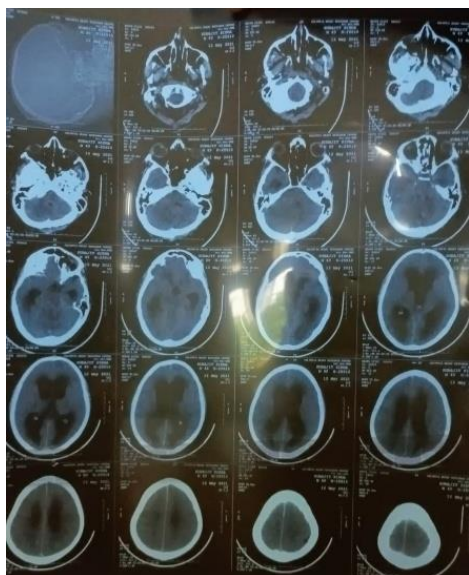


Fig.1. CT Scan of brain showing ischaemic CVA

Subject -B

Hb- 12mg/dl, RBC- 4.4, WBC- 5800 cu/mm, MCV- 24.56, PCV- 24.8, ESR- 20, Platelet count- 2.71 L/Cumm; FBS- 86 mg/dl, PPBS- 113 mg/dl, HbA_{1c}- 5.1; Urine examination- within normal limit.

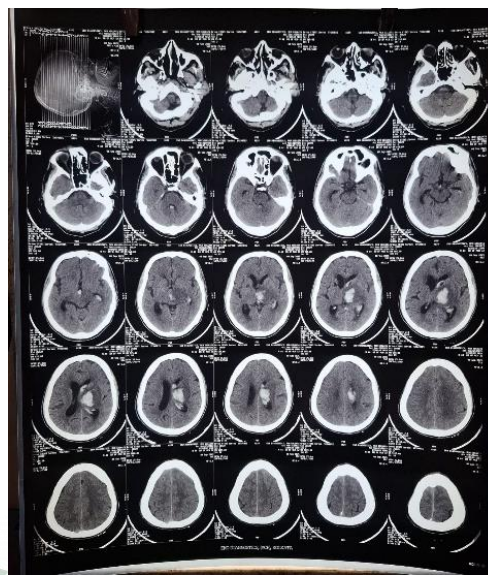


Fig.2. CT Scan of brain showing haemorrhagic CVA

Diagnostic Assessment

The diagnostic evaluation in both cases was based on clinical history, detailed neurological examination, laboratory investigations, and neuroimaging, integrating standard biomedical criteria for cerebrovascular accidents with classical Ayurvedic diagnostic principles.

Biomedical Diagnostic Assessment

Both patients presented with typical features of post-stroke hemiparesis, including unilateral motor weakness, dysarthria, altered muscle tone, exaggerated deep tendon reflexes, and hemiplegic gait, consistent with upper motor neuron lesions involving the corticospinal tract.^[14] Non-contrast computed tomography (CT) of the brain was performed in both cases, as it is the first-line modality for differentiating ischaemic and haemorrhagic stroke in routine clinical practice.^[15] In Subject A, CT findings were consistent with ischaemic infarction, correlating with left-sided hemiparesis, and CT of Subject B revealed intracerebral haemorrhage involving the left cerebral hemisphere, correlating with right-sided hemiparesis.

CT imaging is widely recommended in acute and subacute stroke because of its rapid acquisition and reliability in detecting haemorrhage, mass lesions, and large infarcts.^[15,16] Routine haematological and biochemical investigations were undertaken to assess systemic status, identify vascular risk factors, and exclude metabolic contributors to neurological

dysfunction. These included complete blood count, erythrocyte sedimentation rate, fasting and postprandial blood glucose, HbA_{1c}, and urine examination. The findings confirmed the presence of established risk factors, particularly hypertension and diabetes mellitus, known to contribute to stroke pathogenesis and recurrence.^[17] Based on clinical, neurological, and imaging correlation, the biomedical diagnoses were established as:

Subject A: Left-sided hemiparesis following ischaemic cerebrovascular accident

Subject B: Right-sided hemiparesis following haemorrhagic cerebrovascular accident.

Ayurvedic Diagnostic Assessment

Ayurvedic diagnosis was established through *Roga-Rogi Pariksha*, incorporating assessment of *Dosha*, *Dushya*, *Rogamarga*, *Adhithana*, and *Samprapti*. Both patients exhibited classical features of *Pakshaghata*, including unilateral loss of voluntary movement (*Cheshta Nivrutti*), speech impairment (*Vakstambha*), increased muscle tone, and functional restriction of the affected limbs. According to the *Charaka Samhita*, *Pakshaghata* arises from aggravated *Vata dosha* affecting *Sira* and *Snayu*, leading to neuromuscular dysfunction.^[7]

In Subject A, dryness, stiffness, chronicity, and absence of heaviness suggested *Vata Pradhana Pakshaghata*.

In Subject B, associated heaviness, long-standing alcohol use, and relatively acute onset indicated *Vata-Kaphaja Pakshaghata*, reflecting *Kapha Anubandha*.

Both cases were classified under *Madhyama Rogamarga* due to involvement of deeper tissues and vital structures, including *Marma* and *Majja*, consistent with central nervous system involvement.^[8] Sushruta further classifies *Pakshaghata* as a *Maha Vatavyadhi*, indicating severity and guarded prognosis, particularly in chronic disease or in association with *Dhatu Kshaya*.^[9] Thus, an integrative diagnostic framework was applied, wherein biomedical diagnosis defined stroke subtype and neurological deficit, while Ayurvedic diagnosis guided individualized therapeutic planning based on *doshic* predominance and disease chronicity.

No significant diagnostic uncertainty or alternative diagnoses were identified during evaluation, and prognosis was considered guarded due to chronicity and associated comorbidities.

Therapeutic Intervention

The therapeutic strategy in both cases was planned using an integrative framework, combining classical Ayurvedic principles with contemporary understanding of post-stroke neurological rehabilitation. Treatment objectives included pacification of aggravated *Vata dosha*, restoration of neuromuscular function, improvement of motor strength and tone, facilitation of speech, and prevention of further functional deterioration. Management consisted of *Shamana chikitsa* based on Bengal school of Ayurveda followed by *Shodhana chikitsa*, administered over a period of 30 days under inpatient supervision.

Shamana Chikitsa (Internal Medication)

Shamana therapy was initiated in both patients to correct *Agni*, reduce *Ama*, and pacify *Vata* and *Kapha dosha* prior to *Panchakarma* interventions. The internal medications were selected based on their *Vata-Kapha Shamaka*, *Deepana-Pachana*, and neurocalming properties, as described in Ayurvedic texts.^[7-9]

Madabhanjana Churna, containing *Sarpagandha* (*Rauwolfia serpentina*), and *Jatamansi* (*Nardostachys jatamansi*), was administered with *Golmaricha* (*Piper nigrum*) twice daily. This inhouse formulation of IPGAER is traditionally indicated for *Siragata Vata* (?hypertension), anxiety, disturbed sleep, and neuromuscular excitability, thereby supporting central nervous system stabilization and speech improvement.^[18-20]

Masabaladi Pachana Kwatha, composed of drugs such as *Mashaparni* (*Teramnus labialis*), *Bala* (*Sida cordifolia*), *Rasna* (*Vanda roxburghii*),

Ashwagandha (*Withania somnifera*), and *Eranda Mula* (*Ricinus communis*), with *Hing* (*Asafoetida*) and *Saindhav Lavana* (Rock salt) was prescribed to enhance digestion, pacify *Vata* and *Kapha dosha*, and provide *Brimhana* to neuromuscular tissues. The formulation possesses *Madhura Rasa*, *Snigdha Guna*, and *Ushna Virya*, which are considered beneficial in chronic *Vata* disorders, and an exclusive formulation of Bengal school of Ayurveda for treating *Pakshaghata*.^[18-20,21]

Pathya Churna, consist of *Jangi Haritaki* (small black fruit of *Terminalia chebula*) was administered once daily to promote *Vatanulomana* and relieve constipation, thereby supporting the downward movement of *Vata* and preventing further aggravation of *Pakvashaya Sthita Vata*, which is regarded as the primary site of *Vata dosha*.^[18-20]

Shodhana Chikitsa (Panchakarma Interventions)

After adequate preparation through *Shamana* therapy, *Shodhana chikitsa* was initiated, with emphasis on *Basti* therapy, supported by local *Snehana*, *Swedana*.

Basti Therapy

Both patients underwent *Kala Basti* protocol for 15 days, comprising alternating *Anuvasana Basti* and *Niruha (Madhutailika Yapana) Basti*. *Anuvasana Basti* with *Sahacharadi Taila* (consists of *Sesamum indicum*, *Bariesta strigose*, *Valeriana jatamansi*, *Premna corymbosa*, *Desmodium gangeticum*, *Saussurea costus*, *Cedrus deodara*, *Elettaria cardamomum*, *Vetiveria zizanoides*, *Parmelia perlata*, *Anethum graveolens*, and *Pterocarpus santalinus*) was administered to provide *Snehana*, reduce dryness, and pacify *Vata dosha*. *Murcchita Til Taila* is traditionally indicated in *Vatavyadhi* involving lower and upper limbs and is known to improve neuromuscular coordination.^[11,22-25] *Madhutailika Yapana Basti* was administered as the principal therapeutic intervention. Classical texts describe *Madhutailika Basti* as a *Yapana Basti* possessing both *Shodhana* and *Rasayana* properties, indicated in chronic *Vata* disorders, neurological conditions, and degenerative diseases. The formulation, containing *Madhu*, *Tila Taila*, *Saindhava Lavana*, *Shatapushpa Kalka*, and *Eranda Muladi Kashaya*, nourishes *Majja Dhatu*, strengthens neuromuscular pathways, and facilitates functional recovery. Charaka describes, *Yapana Basti* as having broad therapeutic utility with minimal complications and sustained benefits.^[7,11,22-25]

External Therapies

Sthanik Snehana was performed using *Sahacharadi Taila* to soften tissues, reduce stiffness, and prepare muscles and joints for further therapy. *Shashtika Shali Pinda Sweda* was applied in both cases to provide *Brimhana* and *Rasayana* effects, particularly beneficial in patients with muscle weakness and chronic debility.^[26]

Concomitant Care and Monitoring

Both patients continued their prescribed conventional medications for hypertension and diabetes mellitus during hospitalization. Vital

parameters, neurological status, bowel habits, and tolerance to therapies were monitored daily. No adverse drug reactions or procedure-related complications were observed during the treatment period.

Table 1. Shamana Chikitsa (Internal Medication)

Intervention	Composition / Drug details	Dose & Duration	Therapeutic Rationale	References
<i>Madabhanjana Churna</i>	<i>Sarpagandha, Jatamansi (1:1)</i> applied with <i>Golmaricha</i>	500 mg twice daily with 250 mg <i>Golmaricha churna</i> for 30 days	<i>Siragata Vata</i> (hypertension), anxiety, disturbed sleep, neuromuscular excitability, supporting central nervous system stabilization and speech improvement.	18-20
<i>Masabaladi Pachana Kwatha</i>	<i>Mashaparni, Bala, Rasna, Ashwagandha, and Eranda Mula</i> (with <i>Hing</i> and <i>Saindhava Lavana</i>)	35 mL twice daily, 30 min before food, for 30 days	To enhance digestion, pacify <i>Vata</i> and <i>Kapha dosha</i> , and provide <i>Brimhana</i> to neuromuscular tissues; beneficial in chronic <i>Vata</i> disorders.	18-21
<i>Pathya Churna</i>	<i>Jangi Haritaki</i> (small black fruit of <i>Terminalia chebula</i>)	5 g once daily with lukewarm water at 8PM for 30 days	<i>Vatanulomana</i> and relieve constipation, supporting the downward movement of <i>Vata</i> and preventing further aggravation of <i>Pakvashaya Sthita Vata</i> .	18-20

Table 2. Shodhana Chikitsa (Panchakarma Interventions)

Therapy	Procedure details	Duration	Indication / Rationale	References
<i>Anuvasana Basti</i>	<i>Sahacharadi Taila</i>	As per <i>Kala Basti</i> schedule	<i>Snehana</i> , reduction of <i>Rukshata</i> , neuromuscular coordination	11,22
<i>Madhutailika Yapana Basti</i>	<i>Madhu, Tila Taila, Saindhava Lavana, Shatapushpa Kalka, Eranda Muladi Kashaya</i>	As per <i>Kala Basti</i> schedule	<i>Yapana Basti</i> with <i>Shodhana + Rasayana</i> effects; <i>Majja Dhatu</i> nourishment	11,23-25

Table 3. External Therapies

Therapy	Case	Procedure	Therapeutic Purpose	References
<i>Sthanik Snehana</i>	Both cases	Local oleation with <i>Sahacharadi Taila</i>	Reduces stiffness, prepares tissues for <i>Swedana</i>	22
<i>Swedana</i>	Both cases	<i>Shashtika Shali Pinda Sweda</i>	<i>Brimhana, Rasayana</i> , muscle strength improvement	26

Table 4. Concomitant Care and Monitoring

Aspect	Details
Conventional medications	Continued antihypertensive and antidiabetic drugs
Monitoring	Daily vitals, neurological status, bowel habits
Safety	No adverse drug reactions or procedure-related complications

Outcome and Follow-Up

Clinical Outcomes

Both patients were evaluated at baseline and at the completion of the 30-day inpatient treatment period using structured neurological examination and functional assessment. Outcomes were assessed in terms of motor power, muscle tone, range of movement, gait, speech, and overall functional independence.

Subject A: Ischaemic Stroke

At baseline, the patient exhibited left-sided hemiparesis with marked restriction of shoulder movement, severe dysarthria, muscle power graded 2/5, and increased muscle tone. Following completion of the therapeutic protocol, a gradual and clinically meaningful improvement was observed.

- Active elevation of the left upper limb improved by approximately 20 degrees.
- Muscle power improved from grade 2/5 to grade 3/5 against resistance.
- Muscle tone improved from grade 2/5 to grade 3/5.
- Dysarthria reduced from severe to moderate intensity.
- Deep tendon reflexes showed partial normalization.
- Gait stability improved, allowing assisted ambulation with better balance.

The patient reported improved ease in performing basic activities such as sitting, standing, and self-care tasks. No deterioration in cognitive status or new neurological deficits was observed.

Subject B: Haemorrhagic Stroke

At baseline, the patient presented with right-sided hemiparesis, severe dysarthria, muscle power graded 2/5, and pronounced restriction of upper limb

movement. At the end of the treatment period, improvement was more pronounced compared to Case 1.

- Active elevation of the right upper limb improved by approximately 40 degrees.
- Muscle power improved from grade 2/5 to grade 4/5.
- Muscle tone improved from grade 2/5 to grade 3/5.
- Dysarthria showed marked improvement, with clearer articulation and improved speech fluency.
- Gait pattern improved from hemiplegic to near-normal with minimal support.

The patient was able to perform activities of daily living with minimal assistance and demonstrated improved confidence and mobility.

Comparative Outcome Interpretation

Both patients demonstrated functional improvement following the integrative Ayurvedic intervention, with greater motor recovery observed in the patient with haemorrhagic stroke. This observation is consistent with neurological rehabilitation literature suggesting that haemorrhagic stroke survivors may exhibit better long-term motor recovery compared to ischaemic stroke patients, possibly due to differing patterns of neuronal injury and plasticity.^[5,27] From an Ayurvedic perspective, improvement in motor function, speech, and gait reflects effective *Vata Shamana* and restoration of voluntary movement through *Samprapti Vighatana*. The combined use of *Yapana Basti*, and *Brimhana* therapies may have contributed to neuromuscular nourishment (*Majja Dhatu Poshan*) and functional recovery, as described in classical texts.^[7-10]



Subject A, on the day of admission



Subject A, on the day of discharge



Subject B, on the day of admission

Subject B, on the day of discharge

Figure 3. Physical appearance of the patients on the day of admission and release

Follow-up

Both patients were advised to continue prescribed oral Ayurvedic medications for an additional four weeks after discharge and to maintain dietary and lifestyle measures conducive to *Vata* balance. Simple physiotherapy exercises were recommended as adjunctive supportive care.

Follow-up assessments were conducted at four weeks post-discharge through outpatient visits. Both patients maintained the functional gains achieved during inpatient treatment, with no reported relapse or deterioration of neurological status. No adverse

events or complications related to the therapies were reported during the follow-up period.

Safety and Tolerability

Throughout the treatment and follow-up period, both patients tolerated the interventions well. No adverse drug reactions, procedure-related complications, or clinically significant laboratory abnormalities were observed. This supports the safety of the integrative Ayurvedic protocol when administered under supervised clinical conditions.

Outcome and Follow-up

Table 5. Baseline and Post-treatment Clinical Outcomes (30 days)

Parameter	Case 1- Ischaemic Stroke	Case 2- Haemorrhagic Stroke
Side affected	Left	Right
Upper limb elevation	<40° (baseline) → +20° improvement	<30° (baseline) → +40° improvement
Muscle power (MRC grade)	2/5 → 3/5	2/5 → 4/5
Muscle tone	2/5 → 3/5	2/5 → 3/5
Deep tendon reflexes	Exaggerated → partially normalized	Exaggerated → near-normal
Dysarthria	Severe → moderate	Severe → markedly improved
Gait pattern	Hemiplegic → improved with assistance	Hemiplegic → near-normal with minimal support
Functional independence	Partial assistance required	Minimal assistance required

Table 6. Comparative Outcome Interpretation

Aspect	Observation	Clinical Interpretation
Overall motor recovery	Improvement in both cases	Indicates positive neuromuscular response to integrative therapy.
Degree of improvement	Greater in haemorrhagic stroke	Consistent with reports of better motor recovery potential in haemorrhagic stroke survivors. ^[1]
Speech improvement	Present in both cases	Suggests benefit of <i>Basti</i> and CNS-oriented therapy.

Aspect	Observation	Clinical Interpretation
Safety	No adverse events	Supports tolerability of supervised Ayurvedic interventions.

*Motor recovery trends supported by stroke rehabilitation literature.^[5,27]

Table 7. Follow-up Outcomes (4 weeks post-discharge)

Parameter	Case 1	Case 2
Maintenance of motor gains	Maintained	Maintained
Gait stability	Stable	Stable
Speech function	No deterioration	Further mild improvement
Relapse or new deficits	None	None
Adverse events	None reported	None reported

Table 8. Safety and Tolerability Summary

Aspect	Observation
Drug-related adverse effects	Not observed
Panchakarma-related complications	Not observed
Laboratory abnormalities	Not observed
Treatment discontinuation	None

Informed Consent

Written informed consent was obtained from both patients for publication of this case report and accompanying data.

DISCUSSION

Post-stroke hemiparesis remains a major cause of long-term disability, with recovery often incomplete despite structured rehabilitation, particularly in elderly patients and those with metabolic comorbidities.^[1-5] In this CARE-compliant comparative report, both patients demonstrated clinically meaningful functional improvement following a structured Ayurvedic intervention, with relatively greater recovery observed in the haemorrhagic stroke case. From a biomedical perspective, better recovery in the haemorrhagic stroke patient is consistent with evidence suggesting enhanced long-term motor recovery potential in haemorrhagic stroke survivors, possibly related to partial neuronal preservation, resolution of perihematomal oedema, and greater capacity for neuroplastic reorganization.^[27-30] However, rehabilitation outcomes are not determined by stroke subtype alone and are influenced by neuroprotective, anti-inflammatory, and neuromodulatory interventions applied during recovery. In Ayurveda, hemiparesis corresponds to *Pakshaghata*, a *Nanatmaja Vatavyadhi* arising from vitiated *Vata dosha* affecting *Sira*, *Snayu*, and *Majja Dhātu*. The clinical features observed, including *Cheshta Nivrutti*, *Vakstambha*, increased tone, and

hemiplegic gait, closely reflect classical descriptions.^[7-10] Although the treatments were eventually comparable, classification into *Vata Pradhana Pakshaghata* and *Vata-Kaphaja Pakshaghata* guided personalized therapy planning.

The principal intervention was *Madhutailika Yapana Basti*, described as combining *Shodhana* and *Rasayana* actions and indicated for chronic neurological disorders.^[23-25] Its constituents provide multiple bioactive effects: antioxidant and neuroprotective lignans from *Tila Tila*,^[20,31] anti-inflammatory and neuromodulatory actions from *Eranda Mula*,^[18-20] and tissue-protective flavonoids from *Madhu*.^[32] *Shamana* formulations further supported recovery through antihypertensive, anxiolytic, neuroprotective, and bioavailability-enhancing actions,^[18-20,33,34] while *Brimhana* drugs such as *Withania somnifera* promoted neurite growth and reduced neuroinflammation.^[35] Adjunctive therapies likely contributed to reduction of stiffness and improvement in strength and circulation.^[22,26] No adverse events were observed, supporting safety under supervision.^[12,13]

CONCLUSION

This comparative CARE-compliant case report suggests that a structured Ayurvedic intervention may contribute to functional recovery in post-stroke hemiparesis. Both ischaemic and haemorrhagic stroke patients showed improvement in motor strength, mobility, gait, and speech following a 30-day protocol

centered on *Madhutailika Yapana Basti* with supportive *Shamana* therapy based Bengal school of Ayurveda and external therapies.

The observed benefits are plausibly related to combined antioxidant, anti-inflammatory, neuroprotective, neuromodulatory, and bioavailability-enhancing actions of the constituent phytochemicals, aligning with Ayurvedic principles of *Vata Shamana* and *Majja Dhatu Poshan* and with contemporary concepts of neuroplasticity. Although limited by its observational design, this report supports further controlled studies using standardized neurological outcome measures to clarify the role of phytochemical-rich Ayurvedic interventions as adjuncts in comprehensive stroke rehabilitation.

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