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MANAGEMENT OF *PAKSHAGHATA* WITH SPECIAL REFERENCE TO ISCHEMIC STROKE THROUGH *AYURVEDA*: A CASE STUDY

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Abstract

Hemiplegia is one of the most common conditions, especially among the elderly with a history of hypertension. It primarily occurs due to the obstruction of cerebral blood vessels, ischemia, lack of glucose metabolism, and weakness of nerve cells. Recovery time after a stroke varies for each individual and can take weeks, months, or even years. While some people recover fully, others may experience long-term or lifelong disabilities. The most common post-stroke disabilities include impaired speech, restricted physical abilities, weakness or paralysis of limbs on one side of the body, difficulty gripping or holding objects, and slowed communication ability. Hemiplegia, generally correlated with *Pakshaghata* in *Ayurveda*, is classified under *Vataja Nanatmaja Vatavyadhi*.[i] *Ayurveda* offers various treatment modalities for the management of *Pakshaghata*, including *Abhyanga*, *Swedana*, *Virechana*, *Basti*, and *Nasya* etc. *Shodhana* and *Shamana Chikitsa*. This article discusses the different *Ayurvedic* treatment approaches used in the management of a patient with *Pakshaghata*. The patient was treated with *Sadhyo Virechana* followed by internal medication and showed significant improvement in symptoms, demonstrating the effectiveness of *Ayurvedic* treatments in the management of *Pakshaghata*.

Key Words

Pakshaghata, Hemiplegia, *Sadhyo virechana*, *Shaman*, *Panchakarma*

Introduction

Stroke ranks as the second leading cause of death worldwide and is a major contributor to disability, imposing significant economic burdens. The clinical manifestations of stroke vary widely due to the brain's complex anatomy and vasculature. Cerebral ischemia occurs when blood flow is reduced for an extended period. Neurological symptoms appear within seconds because neurons lack glycogen, causing rapid energy failure. If blood flow is interrupted for more than a few minutes, it results in infarction, or brain tissue death. However, if blood flow is quickly restored, brain tissue can fully recover, and symptoms are transient, a condition known as transient ischemic attack (TIA). A stroke is diagnosed when neurological signs and symptoms persist for

more than 24 hours, or if brain infarction is evident.

Focal ischemia or infarction is typically caused by thrombosis of cerebral vessels or by emboli originating from a proximal artery or the heart. Intracranial haemorrhage, on the other hand, is

caused by bleeding in or around the brain, leading to neurological symptoms due to mass effects on neural structures, toxicity from the blood itself, or increased intracranial pressure. .[ii]

Hemiplegia, the most common manifestation of stroke, results in neurological deficits affecting the face, limbs, and trunk on one or both sides of the body.

Aetiology:

(a) Cerebrovascular accidents, including cerebral haemorrhage, subarachnoid haemorrhage, cerebral thrombosis, internal carotid artery thrombosis or stenosis, cerebral embolism, and venous sinus thrombosis.
(b) Hypertensive encephalopathy
(c) Cerebral tumours
(d) Acute encephalitis.[iii]

Based on the signs and symptoms of hemiplegia, it can be correlated with *Pakshaghata* in *Ayurveda*. This disease is classified as a *Madhyama Rogamarga Vyadhi* in *Ayurvedic* literature.[iv] The root cause of *Pakshaghata* is the vitiation of *Vata Dosha*, with the involvement of *Dushti* (vitiation) in *Rasa*, *Rakta*, *Mamsa*, *Majja*, *Sira*, and *Snayu*. Acharya Charaka describes the symptoms as immobility of the affected side, often accompanied by pain and speech loss.[v] There is *Karmahani* (loss of function) in either the *Vama* (left) or *Dakshina* (right) extremities, and patients may experience *Vak-stambha* (inability to speak), with the affected part becoming *Krusha* (weak) and *Durbala* (debilitated). Charaka recommends *Swedana*, *Snehana*, and *Virechana* as treatment modalities for *Pakshaghata*. [vi]

The treatment is selected based on the specific *Dosha* and *Dushya* involved. Both external and internal *Snehana* (oleation), *Swedana* (sudation), *Virechana* (purgation), various types of *Basti* (medicated enemas), and *Nasya* (nasal administration of medicine) have been recommended. In the present study, a patient with *Pakshaghata* showed remarkable improvement with the use of *Mrudu Shodhana* (detoxification) and *Shamana* (palliative) medications.

Case Study:

A 47-year-old married female patient was brought to the Panchakarma OPD of GAAC Hospital on 26/12/2023, with chief complaints of sudden weakness on the right side of the body, including the face, difficulty standing and walking, and slurred speech for the past 17 days.

History of Present Illness:

The patient was healthy and apparently normal until 08/12/2023. On the morning of 09/12/2023, upon waking, she experienced a sudden loss of strength on the right side of her body, along with slurred speech, and difficulty walking and standing. For that, she was admitted to an allopathic hospital for emergency treatment and was diagnosed with hypertension and cerebrovascular accident (CVA) on 9/12/2023. Despite receiving treatment for few days, there was no significant improvement in her symptoms. Subsequently, she was brought to our hospital on 26/12/2023 for further *Ayurvedic* treatment.

Clinical Findings Past History:

The patient has a 17-day history of hypertension.

Physical Examination:

- Build: Normal
- Pallor, Icterus, Cyanosis, Clubbing, Lymphadenopathy, Edema (PICKLE): Normal
- Blood Pressure: 140/90 mmHg
- Pulse Rate: 76/min

Systemic Examination:

- Respiratory System: Normal vesicular and bronchial breath sounds, no abnormality detected.
- Cardiovascular System (CVS): S1 and S2 heard, no abnormalities.

Central Nervous System[vii]:

1. Higher Function:
a. Consciousness: Conscious
b. Behaviour: Normal
c. Intelligence: Intact
d. Memory: Intact
e. Orientation: Well oriented
f. Speech: Slurred
2. Motor system (Right Upper and Lower Extremity)
a. Nutrition: Muscle Bulk Normal
b. Tone: Hypotonia
c. Power:
Shoulder joint: Grade 3 Elbow joint: Grade 2 Wrist joint: Grade 2 Hip joint: Grade 3
Knee joint: Grade 2 Ankle joint: Grade 2
d. Coordination: Normal
e. Involuntary movement: not present
3. Sensory system
a. superficial sensation: intact
b. deep sensation: intact
c. cortical sensation: intact
4. Reflexes
a. Superficial
Plantar reflex: Extensor on right side
b. Deep
Biceps: 3
Supinator: 3 Triceps:3
Knee:3 Ankle:3

Diagnostic Assessment

MRI Brain (9/12/2023):

- Acute lacunar infarct noted in the periventricular region of the left frontoparietal area and left putamen.
- Acute lacunar infarct also presents in the periventricular region of the right parietal area.
- Bilateral multiple discrete and a few patchy confluent areas in the deep and periventricular white matter of the cerebral parenchyma, suggestive of chronic small vessel ischemic disease changes.
- Age-related cerebral atrophic changes.

Based on the clinical presentation and MRI findings, the case was diagnosed as stroke (*Pakshaghata*).

***Samprapti Ghataka*[viii]**

Table 1: *Samprapti ghataka* for *Pakshaghata*

Dosha	*Vata prawdhana tridosha*
Dushya	*Rasa, Rakta, Mamsa, Majja, Sira, Snayu*
Udbhav Sthan	*Pakwashay, Shirah-pradesh*
Adhisthana	*Dakshin sharir-ardha*
Srotas	*Rasavaha, Raktavaha, Mamsavaha, majjavaha Pranavaha*
Srotodusti prakara	*Sanga, Vimarga gamana*
Agni	*Mandagni*
Vyadhi swabhava	*Ashukari*
Sadhya/ashadhyata	*Kruchchasadhya*

Therapeutic Intervention

The patient was admitted to the IPD of GAAC on 26/12/2023. The treatment plan included

Sadhyo Virechana (immediate purgation) followed by *Matra Basti* (medicated enema), along with internal medications as detailed in the table below:

Table 2: Details of Therapeutic Administered

Sr No	Date	Procedure	Findings
1	27/12/23 To 29/12/23	*Sarvanga Abhyanga* with *Nirgundi Taila* *Sarvanga Baspa Swedana*	-
2	29/12/23	*Sadyo Virechana* *Yoga: Triphala Kwatha*-100gm *Trivrut Churna*-5 gm Given at 10:30am	*Shudhdhi:*
			Vegiki- 8 *Vega;* 3 *Upavega*
			Laingiki- Indriya Prasada, Laghuta, Agni Vruddhi
			Antiki- Kaphanta
3	29/12/23 To 31/12/23	*Samsarjana Krama* for 1 *Annakala*	*Peya, Vilepi, Akruta Mudga Yusha, Kurta Mudga Yusha, Samanya Bhojana*
4	1/1/24 To 9/1/24	*Matra Basti* with *Mahanaraayana Taila*- 60 ml (*Abhyanga- Sweadana*-after food) followed by *Sthanika*	1) *Laghu Yogaraja Guggulu* 2 BD (250 mg) 2) *Lashunadi Vati* 2BD (250 mg)

		Abhyanga Swedana over *Kati, Udara Sphika Pradesh*, then advised patient to take light diet.	3)*Dashamoola Kwatha* 40 ml BD

Results:

During the course of treatment, the patient's condition gradually improved. Muscle strength, power, and tone showed significant enhancement. Deep tendon reflexes returned to normal after the completion of treatment. By the end of the treatment, the patient was able to walk independently. Additionally, slurring of speech and motor response also improved notably as detailed in the table below:

Table 3: Symtomatic Assessment

Sign and symptoms		**Before treatment (26/12/23)**	**After *Sadhyo Virechana* (29/12/23)**	**After Treatment (9/01/24)**
Speech		Slurred	Mild improved	Moderate Improved
Blowing of cheek		Not possible	improved	Normal
Muscle power on Rt side	Shoulder joint	3/5	4/5	5/5
	Elbow joint	2/5	4/5	5/5
	Wrist joint	2/5	3/5	4/5
	Hip joint	3/5	5/5	5/5
	Knee joint	2/5	4/5	5/5
	Ankle joint	2/5	4/5	5/5
Reflexes on Rt side	Biceps	3	3	2
	Triceps	3	3	2
	Supinator	3	3	2
	Knee jerk	3	3	2
	Ankle jerk	3	3	2
	Babinski sign	Positive	Positive	Negative

Discussion

- **Abhyanga:**

Abhyanga refers to the application of oily substances to the body. Acharya Dalhana explains in detail the absorption of *Sneha* (oleation) during *Abhyanga*, noting how long it takes to reach different *Dhatus* (tissues).[ix] In this case, *Nirgundi Taila* was used for *Abhyanga* due to its *Vata-Kapha Shamaka* properties. According to Acharya, when a *Snehana* drug reaches a specific *Dhatu*, it alleviates or cures diseases related to that *Dhatu*. *Nirgundi Taila* is particularly indicated for conditions affecting muscles and nerves, as well as for improving physical strength and health. It enhances circulation, especially to nerve endings, and tones muscles and the entire physiology.

- **Swedana:**

Swedana is a therapy that alleviates *Stambha* (stiffness), *Gaurava* (heaviness), and *Sheeta* (cold), inducing perspiration.[x] It is recommended for diseases caused by vitiated *Vata* and *Kapha Doshas*.[xi] Through *Snehana* (oleation), the *Dhatus* and obstructed *Doshas* become softened, and the application of *Swedana* helps mobilize them towards the *Kostha* (gastrointestinal tract), where they can be accumulated and eventually expelled.[xii]

- **Sadhyo Virechana:**

Sadhyo means immediate. In the acute stage of the disease, where the *Doshas* are already in an aggravated (*Utklishta*) state, the primary therapy (*Pradhana Karma*) is recommended without the need for *Purvakarma* (preparatory measures). Hence, without *Dipana* (digestive stimulants), *Pachana* (digestive medications), or *Snehapana* (internal oleation), direct *Abhyanga*, *Swedana*, followed by *Virechana* with appropriate post-therapy care (*Samsarjana Krama*) was chosen as the treatment approach.

Virechana is the treatment of choice not only for conditions caused by vitiated *Pitta* but also for disorders involving *Rakta* (blood) and *Majja Dhatu* (bone marrow). In *Pakshaghata*, *Vata Prakopa* (aggravation of *Vata*) is the primary cause. *Vata Prakopa* can occur due to two reasons: *Avarana Janya* (due to obstruction) and *Dhatukshaya Janya* (due to tissue depletion).[xiii] Since the primary site of *Vata* is the *Pakvashaya* (colon), Acharya Charaka mentions that the treatment for *Pakvashaya Gata Vata* is *Virechana*. In general treatments for *Vata Dosha*, mild *Virechana* (*Mrudu Virechana*) is advised[xiv], and it is also recommended specifically for *Pakshaghata*.

Dalhanacharya's explanation, *"Evam Yeva Pittadhara Saeva Majjadharaiti"*, establishes a connection between *Pittadhara Kala* and *Majjadhara Kala*. *Pittadhara Kala*, located in the *Grahani*, is the seat of *Agni* (digestive fire). A disturbance in *Agni* leads to dysfunction of *Grahani*, causing various diseases of both *Pittadhara Kala* and *Majjadhara Kala*. According to Indu's commentary on *Ashtanga Sangraha*, *Medo Dhatu* transforms into *Majja Dhatu* and *Mastulunga*, which have a solid, *Ghrita*-like appearance.

Mastulunga is present inside the flat bones of the skull, and *Majja Dhatu* is located within the bones (*Asthi*). The skull and vertebral column act as casings for the brain and spinal cord, respectively, both of which are part of the central nervous system (CNS). Thus, *Majja Dhatu* is related to the nervous system. Through *Virechana Karma*, vitiated *Rakta* and *Pitta* doshas can be expelled from the body.[xv]

Modern research also supports the existence of a relationship between the brain and the gut, known as the Gut-Brain Axis. This bidirectional communication links the central nervous system and the enteric nervous system, showing parallels with the *Ayurvedic* understanding of *Majja Dhatu* and the nervous system.

- **Trivruta Churna:**

Trivruta has *Kashaya* (astringent) and *Madhura* (sweet) tastes, along with *Ruksha* (dry) properties. It pacifies *Kapha* and *Pitta* doshas while aggravating *Vata*. When given with any *Kalpana* (preparation), it acts as *Sarvadoshapaha*.[xvi]

- **Triphala Kwatha:**

Triphala is composed of *Haritaki*, *Bibhitaki*, and *Amalaki*. It primarily exhibits *Kashaya Rasa* and properties such as *Sara* and *Dipana* (appetizer), making it effective for *Kapha*, *Pitta*, and conditions related to *Medo Roga*.[xvii]

- **Matra Basti:**

Basti is considered a primary treatment for *Vata Vyadhi*. In this case, *Mahanarayana Taila* is administered for *Matra Basti*. This *Basti* is effective in pacifying *Pakvashayagata Vayu*, which in turn controls all other *Vata* doshas in the body. It also helps in pacifying *Shakhasrita Vata* and *Kosthagata Vata*, thereby regaining functional ability in the affected limbs.

- **Mahanarayana Taila:**

This formulation contains various herbs, including *Bilva mula*, *Ashwagandha*, *Bruhati*, *Gokshura*, *Syonaka*, *Bala Mula*, *Paribhadra*, *Kantakari*, *Punarnava*, *Atibala*, and *Agnimantha*, combined with either *Aja* (goat) or *Go Dugdha* (cow's milk). It is indicated for *Vata Vyadhi*, *Ardita* (facial paralysis), *Ekanga Roga* (monoplegia), *Vepana* (tremors), and conditions of *Shakhasrita-Kosthasrita Vata*. .[xviii]

- **Laghu Yogaraja Guggulu:**

This formulation consists of *Sunthi*, *Pippali*, *Pippali moola*, *Chavya*, *Chitraka*, *Hingu*, *Ajamoda*, *Sarshapa*,

Dwaya jiraka, *Nirgundi beeja*, *Indrayava*, *Vidanga*, *Gajapippali*, *Katuki*, *Ativisha*, *Bharanga moola*, *Vacha*, *Triphala*, and *Guggulu*. It exhibits properties of *Tikta*, *Katu*, and *Kashaya Rasa Pradhana*, along with qualities such as *Laghu*, *Ruksha*, *Ushna*, and *Tridoshaghna*. Its actions include *Medohara*, *Lekhana*, *Balya*, *Rasayana*, *Agni Dipana*, and *Aama Pachana* (digesting toxins). Due to its *Vata-Kapha Samana* properties and ability to promote *Vaatanulomana*, it aids in *Stroto Shodhana* and further supports *Vatanulomana*, restoring normal function to *Vata Dosha*.

- **Lashunadi Vati:**

This formulation includes *Lashuna*, *Jiraka*, *Saindhava Lavana*, *Shuddha Gandhaka*, *Shunthi*, *Pippali*, *Maricha*, *Hingu*, and *Nimbu Swrasa*. The primary ingredient, *Lashuna*, possesses properties such as *Brumhana*, *Vrushya*, *Snigdha*, *Ushna*, *Pachana*, and *Sara*[xix]. Garlic is known for its anti-thrombotic, anti-atherosclerotic, and anti-hypertensive properties. Studies suggest that garlic not only activates thrombolytic action but also suppresses coagulation, thereby playing a beneficial role in cases of infarction and ischemia.

- **Dashamoola Kwatha:**

Acharya Charaka describes *Dashamoola* as having *Shothahara* (anti- inflammatory) properties. It is effective for *Vatashamaka*, *Shulahara*, and *Sothahara*. In *Pakshaghata*, it addresses intracranial swelling and is beneficial for localized swelling and pain.

Conclusion – *Pakshaghata* (paralysis) is a serious condition. Patients seek *Ayurveda* treatment in both acute and chronic stages. Based on the *Samprapti Ghatak* (pathological factors), when

Panchakarma therapy is selected with *Yukti Pramana*, remarkable results can be achieved in managing *Pakshaghata*. In *Pakshaghata*, *Vata* along with the other *Doshas* (*Pitta* and *Kapha*), *Rasa*, *Rakta*, *Mamsa*, *Majja* dhatus, as well as *Sira*, *Snayu*, and *Kandara* (*Upadhatu*) are involved. In this case, *Virechana*, *Matra Basti*, and *Shamana Aushadhi* produced excellent results.

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