

## CASE STUDY

# Holistic Management of Hemiplegia: A Case Study of Panchakarma Sodhana in Ischemic Stroke

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### ABSTRACT

*Pakshaghata is a Vata-Nanatmaja Vyadhi, categorized as a Mahavatavyadhi. It can be associated with hemiplegia resulting from a cerebrovascular accident, commonly known as a stroke. A stroke is characterized by the sudden onset of neurological impairment due to a vascular issue, with 85% being ischemic strokes and 15% caused by primary hemorrhages. According to the World Health Organization, 15 million people experience a stroke each year globally, with 5 million fatalities and another 5 million left permanently disabled. In this case study, a 53-year-old male patient showed that he had been suffering from weakness in his right arm and leg, muscle stiffness, and difficulty walking for the past three months. He had been diagnosed with an Ischemic Stroke and was admitted to the Panchakarma department at Parul Ayurved Hospital. The patient underwent a range of Panchakarma therapies, including Udvartana, Parisheka, Abhyanga SSPS, Nitya Virechana, Nasya, Matra Basti, Shirodhara, and Shiropichu. After completing the treatment, notable improvements were observed: the patient gained muscle strength and tone, and was able to walk.*

**Keywords:** *Pakshaghata, Udvartana, Parisheka, Abhyanga, SSPS, Nitya Virechana, Navan Nasya, Shirodhara, Shiropichu*

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### INTRODUCTION

The term *Pakshaghata* means paralysis of one side of the body, which is associated with impairment of the *Karmendriyas*, *Gnyanendriyas*, and the *manas*. The *Gnyanendriyas* are part of the sensory system, while the *Karmendriyas* are part of the motor system. *Pakshaghata* is classified as a *Vata-Nanatmaja vyadhi* [1] and a *Mahavatavyadhi* [2], causing paralysis on one side of the body, either the left or the right. When *Vata* is aggravated, it leads to the paralysis of one side, often accompanied by aphasia and pain. *Pakshaghata* can be associated with hemiplegia that occurs following a stroke. A stroke is characterized by a sudden onset of neurological impairment due to a vascular cause, with 85% of cases being ischemic and 15% being caused by primary hemorrhages [3]. According to the World Health Organization, 15 million people worldwide experience strokes annually, with 5 million fatalities and another 5 million left permanently disabled (4). In India, the stroke occurrence rate is approximately 200 per 100,000 people [5].

Strokes are generally categorized into two types: hemorrhagic and ischemic. A hemorrhagic stroke occurs when there is sudden bleeding in the brain, while an ischemic stroke is caused by a blockage in the blood flow to the brain. This blockage prevents the brain from receiving the necessary oxygen and nutrients, leading to brain cell death within minutes. In the case of a hemorrhagic stroke, the leaked blood also creates pressure on brain cells, further damaging them. MRI or CT scans of the brain are essential in diagnosing and distinguishing between these conditions.

## CASE STUDY

A 53-year-old male visited our Panchakarma OPD on 27<sup>th</sup> September 2024 with complaints of weakness and muscle stiffness in his right upper and lower limbs, along with difficulty walking, which had been persisting for 20 days. He was admitted to the hospital on the same day. Three months earlier, the patient was in good health when he attended a wedding function. While returning home, he suddenly experienced weakness in his right upper limb and lower limb. He was immediately hospitalized, and after an MRI of the brain, he was diagnosed with an ischemic stroke on 11<sup>th</sup> September 2024.

**MRI Brain on 11/09/2024:** Right deep cerebellar hyperintensity suggestive of subacute ischemic area diffuse cerebral and cerebellar cortical atrophy, periventricular white matter arteriosclerotic ischemic changes, changes of amyloid angiopathy/microvascular angiopathy.

Angiography – Plaque at B/L carotid bulbs noted.

### Past History:

- The patient has a history of hypertension for 3 years and has been on medication for 3 years (Atenolol 50 mg, 1-0-0 after food).
- He also has a history of a cardiovascular stroke 3 months ago and is currently taking Atorvastatin 40 mg, 0-0-1 after food.
- No known history of allergies, typhoid, malaria, or dengue.
- No history of accidental injuries or trauma.

### On examination:

- General condition- Moderate
- BP:130/90 mmHg
- Pulse: 74/min
- Weight: 63KG
- *Nidra: Prakrita*
- *Kshudha: Alpa*
- *Kostha: Krura*

**Table 1: CNS EXAMINATION**

| Muscle Bulk      | RT              | LT   |
|------------------|-----------------|--|
| Biceps           | 24.4 cm         | 27.4 cm  |
| Forearms         | 23.6 cm         | 25.5cm   |
| Mid-thigh        | 43.7 cm         | 44.7 cm  |
| Calf muscle      | 29.3 cm         | 30.3 cm  |
| Muscle Tone      | RT              | LT   |
| Upper Limb       | Hypo            | N  |
| Lower Limb       | Hypo            | N  |
| Power            | RT              | LT   |
| Upper Limb       | 3               | 5  |
| Lower Limb       | 2               | 5  |
| Coordination     |                 |  |
|                  | Upper limb      | Finger to Finger test<br>coordination<br>Absent (+3) |
|                  | Lower limb      | Knee heel test Right (+2)                            |
| Gait             |                 |  |
| Hemiplegic gait  |                 |  |
| Reflex           |                 |  |
| Superficial      |                 |  |
| Abdominal reflex |                 | Present  |
| Deep Reflex      | RT              | LT   |
| Biceps jerk      | Diminished (+3) | Normal   |
| Triceps jerk     | Diminished (+3) | Normal   |
| Knee Jerk        | Diminished (+2) | Normal   |
| Ankle jerk       | Diminished (+2) | Normal   |
| Babinski reflex  | Diminished (+2) | Normal   |

**Table 2: Panchkarma Intervention Protocol**

| Treatment from (8/07/2024 - 12/07/2024)  | Treatment from (13/07/2024- 25/07/2024)  |
|--|--|
| 1. Sarvanga Udavartana with Yava Churna and Yastimadhu Churna Followed by Sarvanga parisheka with Erandmoola and Dashmoola Kashaya | 1. Sarvanga Abhyanga with Balashwagandha oil Followed by Shastik shali Pinda Sweda |
| 2. Nitya Virechana with Erand Taila (20 ml) For Kostha Suddhi with lukewarm milk at night  | 2. Matra basti with Brahmi Ghrita (72 ML)  |
| 3. Shirodhara with Mamsayadi Kasaya  | 3. Shiropichu with Ksheerbala Taila  |
| 4. Shodhana Nasya with Kshirapaka of Sunthi, Vacha, Pippali, Yashtimadhu, Bhrami, and Jatamansi (each 1gms) - 6 drops each nostril | 4. Shamana Nasya with Dhanvantara Taila 101 - 8 drops each nostril                 |
| 5. Ekangveer Rasa 2TID after food  | 5. Ekangveer Rasa 2TID after food  |
| 6.Cap. Palsinuron 2BD after food   | 6.Cap. Palsinuron 2BD after food   |
| 7.Dashamoola+Jatamamsi Kashaya 100 ml BD before food.  | 7.Dashamoola+Jatamamsi Kashaya 100 ml BD before food.                              |
| 8. Yoga and Physiotherapy  | 8. Yoga and Physiotherapy  |

**Table 3: Muscle Power**

| SR NO. | BEFORE TREATMENT |   | AFTER TREATMENT  |   |
|--------|------------------|---|------------------|---|
| 1.     | Right Upper Limb | 3- Movement against gravity but not resistance (++) | Right Upper Limb | 4- Movement against gravity and some resistance (+) |
| 2.     | Right Lower Limb | 2- Movement with gravity eliminated (+++)           | Right Lower Limb | 4- Movement against gravity and some resistance (+) |
| 3.     | Left Upper Limb  | Normal  | Left Upper Limb  | Normal  |
| 4.     | Left Lower Limb  | Normal  | Left Lower Limb  | Normal  |

**Table 4: Observation of ROM of Upper limbs and Lower Limbs**

| S.no. | Sign and Symptom                | Before Treatment | After Treatment |
|-------|---------------------------------|------------------|-----------------|
| 1.    | Flexion-Extension (Elbow)       | No               | Yes             |
| 2.    | Supination-Pronation (Forearm)  | No               | Yes             |
| 3.    | Flexion-Extension (Wrist)       | No               | Yes             |
| 4.    | Power (Grip)                    | No               | Yes             |
| 5.    | Initiation Holding (Object)     | No               | Yes             |
| 6.    | Object (Grasp)                  | No               | Yes             |
| 7.    | Release (Object)                | No               | Yes             |
| 8.    | Catching (Object)               | No               | Yes             |
| 9.    | Throwing (Object)               | No               | Yes             |
| 10.   | Tying (Note)                    | No               | Yes             |
| 11.   | Clothing                        | No               | Yes             |
| 12.   | Holding (Water Bottle)          | No               | Yes             |
| 13.   | Drinking (Glass of Water)       | No               | Yes             |
| 14.   | Walking without support         | No               | Yes             |
| 15.   | Climbing (Stairs)               | No               | Yes             |
| 16.   | Standing (Balance)              | No               | Yes             |
| 17.   | Squatting                       | No               | Yes             |
| 18.   | Activity (Toilet)               | No               | Yes             |
| 19.   | Bathing                         | No               | Yes             |
| 20.   | Getting Up (Squatting Position) | No               | Yes             |

**DISCUSSION**

After a thorough history and physical examination, the patient's condition was diagnosed as *Upastambita Vata Vyadhi* along with *Pakshaghata*.

**Udvartana**

*Udvartana* is effective for *Vataja* and *Kaphaja* disorders, promoting *Agni Deepana*, *Kapha-Meda Vilayana*, and *Srotoshodhana*. It is particularly useful for conditions like *Gauravata*, *Shula*, and *Aamavastha*. *Yava Churna*, with its *Kashaya rasa*, *Lekhana Karma* [6], and *Ruksha Guna*, and *Triphala Churna*, with *Ruksha guna*, *Kashaya rasa*, and its *Tridosha Shamaka*, *Deepaniya*, and *Medohara* properties, were used. This treatment led to about 60% improvement in symptoms.

### **Parisheka**

*Parisheka Sveda*, a type of sudation, is indicated for both *Pitta-Kaphaja* and *Pitta-Vataja disorders*, and in symptoms like *Shota*, *Shoola*, *Gauravata*, and *Sthamba*. *Dashamoola Parisheka* is a *Ruksha Drava Sveda* with properties such as *Tridoshaghana*, primarily balancing *Kapha* and *Vata*. This phase of treatment resulted in a 60-65% improvement in symptoms.

### **Nitya Virechana**

Due to the patient's reduced appetite, constipation, and heaviness, *Virechana* was performed with *Eranda Taila* (20 ml with lukewarm milk at night). This treatment promotes *Vataanulomana*, *Agni Deepana*, and the expulsion of morbid *Pitta Dosha* [17]. *Eranda Taila* was chosen for its *Sukshma* and *Ushna Virya* properties, which help expel toxins and enhance digestive fire, leading to symptom relief i.e. *Jataragni* [8].

### **Shodhana Nasya Karma**

After two days of treatment, *Nasya* was performed using a mixture of *Vacha Churna*, *Pippali Churna*, *Shunthi Churna*, *Yasthimadhu Churna*, *Jatamansi*, and *Bhrami Churna* in the form of *Kshirapaka*. Six drops were administered in each nostril. *Shodhana Nasya* helps eliminate *Kapha Avarana* from other *Doshas* and is beneficial for conditions like *Stambha*, *Supti*, *Guruta* of the head, and conditions like *Mada*, *Murchha*, and *Apasmara* [9]. Most of the drugs used here have properties like *Ushna Virya*, and *Teekshna Guna* in nature, and *Kaphavatahara* and due to the presence of very *Tikshna* properties, the *Kshirapaka Vidhi* was adopted to prepare the medicament for *Nasya Karma* using these drugs. Hence *Shodhana Nasya Karma* was selected for treating *Kapha Avruta Vata*, *Gauravata*, and *Srotoavarodha* conditions. This treatment showed a 60-65% improvement in symptoms.

### **Snehana**

*Sira Snayu Sankochana* mainly occurs in *Pakshaghata*, making *Snehana* an essential treatment for this condition. Just as dry wood can be made flexible through proper oiling, *Snehana* similarly restore flexibility and ease [10]. *Abhyanga*, a technique involving oil massage, is vital for enhancing and fortifying the muscles of the upper and lower limbs. Therapeutically, it helps restore balance to an aggravated *Vata Dosha* and facilitates nourishing the body's tissues [11]. This treatment showed a 60-65% relief in symptoms.

### **Shashtika Shaali Pinda Sweda**

Following *Abhyanga*, daily *Pinda Sweda* was administered. This type of *Snigdha Sankara Sveda* is highly effective in *Vata disorders*, including *Pakshagata* and *Avabahuka*. It promotes vasodilatation, improving blood circulation, tissue growth, and waste removal, thereby helping reduce stiffness. The *Shashtika Shali* has a property like *Snigdha*, *Sthira*, and *Balavardhana Dehadardhyakrita* [12]. *Swedana Krama* does Vasodilatation which helps in proper blood circulations, in turn, it helps in tissue growth [13], and It helps eliminate waste materials from the body, promoting the free flow of *Vata dosha* and reducing stiffness. This phase led to a 65-70% improvement in symptoms.

### **Navana Nasya**

Immediately after daily *Snana*, *Navana Nasya* was performed with *Dhanvantara Taila* 101 (8 drops in each nostril). This treatment is beneficial for conditions like [14] and *Vataroga*, as *Dhanvantara Oil* has properties like *Snigdha*, *Guru*, and *Vata-Kapha Shamana*. It has properties like *Snigdha*, *Guru*, *Vata Kapha Shamana*, *Vata Anulomana*, *Balya* etc. Hence *Navana Nasya* was administered. It helped alleviate symptoms by 65-70%.

### **Shirodhara**

*Shirodhara* is an Ayurvedic healing technique that promotes relaxation of the mind, body, and soul, bringing them into harmony. In *Ayurveda*, it is considered the most effective treatment for soothing the aggravated *Vata dosha*. The herbal oils used in this therapy help restore the balance of the *Vata dosha*, providing relief from the symptoms caused by its imbalance [15]. It helped alleviate symptoms by 65-70%.

### **Shiropichu**

In this medication oil is applied to a cotton swab and placed on the head for four hours. It encourages deep relaxation, alleviates tension, enhances memory, cognition, and focus, and provides clarity and vitality to the senses. Additionally, it helps to strengthen the nervous system, It helps alleviate symptoms by 65-70%.

### **Matra Basti**

*Matra Basti* can be administered without any side effects [16]. In this case, *Brahmi Ghrita* is used for the *Basti*. The amount of *Sneha* is determined based on the retention time, which is 72 ml. It helps to clear blockages in the channels, calm the *Pakvashayagata Vayu*, and regulate the remaining five types of *Vayu*. *Vyana Vayu* governs all bodily activities. This treatment also enhances physical strength. The 72 ml of

Brahmi Ghrita [17] in Matra Basti provides lubrication and alleviates Vata dosha [18-19]. It helped alleviate symptoms by 70-75%.

#### **Yoga and Physiotherapy:**

*Yoga and Physiotherapy* were recommended as supportive therapies. Initially, passive exercises were performed with *TENS* for 10 minutes daily, followed by active exercises after 7 days. This contributed to a 60-65% improvement in symptoms.

#### **CONCLUSION**

This case study highlights the effective management of Pakshagata through straightforward Panchakarma treatments, supplemented with minimal *Shaman Aushadi*. From this case, we can conclude that in cases of ischemic stroke leading to hemiplegia, early intervention with Panchakarma treatments combined with specific *Shaman Aushadhis* can significantly improve recovery outcomes. For *Pakshagata* patients, particularly those with ischemic causes, it can be said that "the earlier the *Panchakarma* intervention, the quicker the recovery." While this is a single case study, it is difficult to draw definitive conclusions about the overall effectiveness of *Ayurvedic* treatments. The Panchakarma procedure, along with *Shamana Aushadi*, proved to be an effective treatment for Pakshagata.

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