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# AYURVEDIC MANAGEMENT OF *PAKSHAGHATA* WITH SPECIAL REFERENCE TO HEMIPLEGIA IN TERMS OF CVA OF THROMBOTIC ORIGIN–A SINGLE CASE REPORT

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## ABSTRACT

*Pakshaghata* is the major *vyadhi* of *Vata dosha*. *Pakshavadha* or *Pakshaghata* is a condition wherein the greatly aggravated *vata dosha*, invades the *shareera dhamani's* causing *sandhibandhamoksha* and paralysing one side of the body causing *cheshtahani* of the side with pain and loss of speech. It can be compared to Cerebro vascular accident / Stroke (Hemiplegia) from modern perspective. Stroke or CVA is defined as the rapid onset of focal neurological deficit, resulting from diseases of the cerebral vasculature and its contents. The present study is a case report on management of stroke of a female patient aged 52 years with chief complaints of loss of function of the left upper & lower limb since 1 year. She was a diagnosed case of stroke on the basis of clinical presentation and brain computed tomography scan. The case treated with the *Ayurveda* medications was found to be effective in providing relief in chief complaints with improvement of overall health of the patient. The recovery was promising and worth documenting.

**KEYWORDS:** Hemiplegia, *Pakshaghata*, *Vatavyadhi*, *Panchakarma*, *Chikitsa*.

## INTRODUCTION

The term *Pakshaghata* literally means "paralysis of one half of the body" where "*paksha*" denotes either half of the body and "*Aghata* (paralysis)" denotes the impairment of *Karmendriyas, Gyanendriyas* and *Manas*. *Gyanendriya* constitute an important part of the sensory system, while *Karmendriyas* denote an important part of the motor system and *Manas* is supposed to control both. According to *Acharya Charaka*, *prakupita vayu* will occur in half of the body and produces *sankocha* and *toda* in one hand and leg by *vishoshana* of *shira* and *snayu* present there. *Sarvanga roga* refers to when the entire body is afflicted. Due to the prominence of *vata dosha* affects the function of *sira*, *snayu*, and *kandara*; Acharya *Charaka* included it in the *nanatmajavyadhi*[1] and *Madhyamarogamarga*. *Acharya Sushruta* explained that *Vata dosha* travels in *Urdhava Adhoga Tiryaka Dhamanis* and caused *Sandhi Bandhana moksha* that ultimately leads to loss of function in one half of body is called *Pakshaghata*. *Pakshaghata* can be correlated with hemiplegia. Hemiplegia is a disease with paralysis of one side of the body. The term "hemiplegia" (Root: "hemi"+ "plegia"= "stroke"). Stroke is defined as sudden onset of focal neurological deficit which mainly occurs due to lack of oxygen resulting from disease of cerebral vasculature and its contents resulting in loss of blood flow to the brain[2]. According to the WHO, 15 million people worldwide are affected. In India, there are about 200 strokes per 100,000 people[3]**.** Stroke represent 3rd most common cause of death in developed countries with prevalence of about 200 per 1 lakh persons and 9.94 % of total deaths patients with stroke present with symptoms of sudden weakness of face, arm or leg (either on one side of the body or both) followed by other symptoms like difficulty in speaking, dizziness, in seeing with one or both eyes, loss of coordination, severe headache and unconsciousness. The normal functions of the brain are dependent upon a relatively constant supply of oxygen and glucose derived from the blood perfusing it (55 mL to 70 mL of blood/100 g of brain/min). The principal source of energy is almost exclusively oxidation of glucose. If the blood flow is critically reduced below 15 mL/100 g/ min, the resulting

ischaemia with hypoxia, when sufficiently prolonged, may cause death of neurons and glia (cerebral infarction). Three types of major strokes are now recognised. These are ischaemic, haemorrhagic and lacunar strokes. Ischaemic variety with cerebral infarction results from atherothrombosis or brain embolism to cerebral vessels. Haemorrhagic stroke with bleeding within the central nervous tissue occurs due to ruptured cerebral aneurysm in the young and hypertensive intra-cerebral bleeding in the elderly. Lacunar strokes are deep, small cerebral infarcts located in basal ganglia or deep white matter, resulting from diseases of small penetrating vessels.

*Panchakarma* along with medications is very useful in treating Paralysis. Keeping this in view, the present study was planned to assess the efficacy of stroke with medicines along with *Panchakarma* therapy.

## CASE REPORT

A patient of 52 years aged, married female from Kadugondanahalli, Bangalore was brought to *Kayachikitsa* Outpatient department of SKAMCH & RC on 08/07/2021 with complaints like reduced strength and loss of movements in the left upper and lower limbs with associated complaints unable to walk, since 12 months.

## HISTORY

A female patient by name XYZ, 52 years old, known case of HTN since 9 years and DM since 3 years (under medication) presented with weakness of left upper limb on 10/09/2020.The patient neglected it and the weakness gradually progressed in 3 days to left lower limbs (on 14/09/2020) and while drinking water she observed sudden dribbling of water from her mouth, followed by slight deviation of the angle of the mouth towards left side, difficulty in talking, inability to stand and walk for which the patient was taken to a nearby allopathic hospital. The patient was conscious and there is no history of headache, vomiting or any convulsions. There she was diagnosed as a case of CVA and was treated for the same. The patient was stabilized and was discharged on 25/10/2020.

On 10/11/2020, the patient experienced 1 episode of convulsion which lasted for only 5 minutes. She was taken by her sister to a nearby allopathic hospital and was admitted. But her condition worsened. She was completely unable to get up from the bed, unable to move left half of her body; there were no bladder and bowel incontinence.

Patient was treated for the above complaints for a month in Command hospital. By the end of one month treatment patient was able to stand and walk with the support of a walker and patient was discharged from the hospital. Due to lockdown patient was unable to continue her treatments and her complaints still persisted. On 13/07/2021, the patient approached SKAMCH & RC for better management.

Patient was treated for the above complaints for a month in Command hospital. By the end of one month treatment patient was able to stand and walk with the support of a walker and patient was discharged from the hospital. Due to lockdown patient was unable to continue her treatments and her complaints still persisted. On 13/07/2021, the patient approached SKAMCH & RC for better management.

### Chief Complaints

Reduced strength and loss of movements in the left upper and lower limbs associated with inability to walk since 12 months.

### Associated Complaints

Difficulty in walking since 12 months, loss of appetite since 20 days, constipation since 1 week, sleeplessness since 15 days.

### Treatment History

Treatment for HTN since 9 years.

1. Tab Olmin –CH 20 mg 1-0-0
2. Treatment for DM since 3 years.
3. Tab Glimisave MV 1 1-0-1
4. Capsule Nexpro –RD 40 1-0-0
5. During the course of treatment in the hospital
6. Tab Ecosprin 150 mg 1OD
7. Tab Atorva 40 mg 1OD
8. Tab Telmikind 40 mg 1OD
9. Tab Amlodipine 5mg 1OD
10. Tab Metformin 500mg 1BD
11. Tab Sitagliption 100mg 1OD
12. Tab Empagliflozin 25mg 1OD
13. Tab Pantop 40 mg1 OD
14. For convulsion
15. Tab Mahagaba –M OD

### Family History

Patient's father had H/o stroke.
Patient's husband passed away in an accident 20 years back
All other family members are said to be healthy.

### Occupational History

Domestic helper at Church

**Personal History**

| | | |
|---|---|---|
| Diet | : | Mixed. Once in a week non veg |
| Appetite | : | Poor |
| Bowel | : | Once in two days, irregular (Constipated) |
| Micturition | : | 7-8 times / day<br>1-2 times / night |
| Habits | : | Tea 4 times a day |

**General Examination**

| | | |
|---|---|---|
| Attitude | : | Sitting position with hip and knee flexed & semi flexed left elbow joint. |
| Built | : | poor |
| Nourishment | : | poorly nourished |
| Pallor | : | absent |
| Icterus | : | absent |
| Clubbing | : | absent |
| Cyanosis | : | absent |
| Lymphadenopathy | : | absent |
| Oedema | : | absent |
| Temperature | : | 98.6 degree F |
| Pulse | : | 76/min |
| Respiratory rate | : | 20 / min |
| BP | : | 130/90mm Hg |
| Height | : | 164cm |
| Weight | : | 50 kg |
| BMI | : | 18.6kg/$m^2$ |
| Heart rate | : | 76/min |
| Tongue | : | coated |

**Systemic Examination**

**1. Central nervous system**

**Mental status examination**

Appearance and behavior

- Level of consciousness: Conscious
- 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.
- Dress, grooming and personal hygiene: Properly maintained.
- Manner, Affect and relationship to people and things: Normal

Speech and language

- Rate & Quantity: Normal
- Volume & tone of speech: Normal
- Rhythm: Normal
- Comprehension
- Repetition
- Naming
- Reading

} Intact

- Writing: Able to perform.

Mood- emotional disturbance present

Thoughts and perceptions:

- Thought process: Abnormalities are absent.
- Thought content: Abnormalities are absent.
- Perceptions: Abnormalities are absent.

**HIGHER MENTAL FUNCTION**

**Cognitive Functions**

Orientation to time, place and person: Intact

Attention: Intact

Memory: Immediate; Recent; Remote – Intact

Hallucination
Delusion
Speech disturbance: Absent
Handedness: Right

} Absent

**CRANIAL NERVES**

**CN - I OLFACTORY NERVE**

Perception of Smell- Intact; anosmia, parosmia are absent

**CN - II OPTIC NERVE**

- Acuity of vision - normal
- Color vision - can able to read ishiharas test plate
- Visual field - normal
- Light reflex - direct light reflex and consensual light reflex are normal.
- Accommodation reflex- normal

**CN - III OCULOMOTOR, CN- IV TROCHLEAR, CN VI - ABDUCENS NERVE**

- Pupil (position, shape, size, symmetry) - NAD
- Eyeball movement - Possible in all directions
- Ptosis, squint, nystagmus - Absent

**CN -V TRIGEMINAL NERVE**
**SENSORY**

| | | Right | Left |
|---|---|---|---|
| Light Touch | Opthalmic | Perceived | Not Perceived |
| | Maxillary | Perceived | Not Perceived |
| | Mandibular | Perceived | Not Perceived |
| Pin Prick | Opthalmic | Perceived | Not Perceived |
| | Maxillary | Perceived | Not Perceived |
| | Mandibular | Perceived | Not Perceived |
| Temperature | Opthalmic | Perceived | Not Perceived |
| | Maxillary | Perceived | Not Perceived |
| | Mandibular | Perceived | Not Perceived |

**MOTOR**
- Deviation of Jaw: Absent
- Movement of Jaw: Possible
- Clenching of teeth: Slightly possible
- Opening mouth against resistance: Slightly possible

**REFLEXES**
- Jaw jerk : Present
- Corneal reflex : Present
- Conjunctival reflex : Intact

**CN - VII FACIAL NERVE**
**SENSORY**
- Sense of taste in anterior 2/3 rd of Tongue: Intact
- Sensation of Face: Light touch affected in left half of the face.

**MOTOR**
- Eyebrow raising: Possible
- Frowning of forehead: Possible
- Complete closure of eyes: Possible
- Clenching of teeth: Possible
- Blowing of cheek: air leak in left side
- Naso-labial fold: normal

**CN -VIII VESTIBULOCOCHLEAR NERVE**
**VESTIBULAR NERVE:** Nystagmus– Absent
**COCHLEAR NERVE**

| | Right | Left |
|---|---|---|
| **Rinnes Test** | Normal | Normal |
| **Webers Test** | Nornal | Normal |

**CN - IX Glossopharyngeal Nerve**
- Taste sensation of posterior 1/3rd of tongue: Intact
- Gag reflex: Present
- Uvula: Centrally placed
- Dysphagia: Absent

**CN-X Vagus Nerve**
- Gag reflex :Intact
- Swallowing :normal
- Position of uvula :centrally placed

**CN Xi Accessory Nerve**
- Trapezius muscle
- Atrophy / Fasciculation - Absent
- Left side shoulder droop
- Shoulder shrugging

With resistance – not possible on left side
Without resistance – possible
- Sternocleidomastoid
- Atrophy / Fasciculation - Absent

**SENSORY**
- Light touch
- Superficial pain
- Deep pain
- Temperature

Not able to appreciate in left side.
Right side normal perception

**Proprioception**: Position and vibration- Normal
**Stereognosis**: Able to recognize the objects in right not in left.
**Graphesthesia**: Not able to identify in left. Normal in right
**Two point discrimination**: Not able to identify in left half of the body. Right side- normal

**Motor System**

| Muscle Bulk | Right | Left |
|---|---|---|
| Mid calf | 29cm | 29cm |
| Mid thigh | 39cm | 39cm |
| Mid arm | 26cm | 25cm |

**Muscle tone**
Right upper limb: Normotonic
Left upper limb: Clasp knife spasticity
Right lower limb: Normotonic
Left lower limb: Clasp knife spasticity

**Muscle Power**

| | Right | Left |
|---|---|---|
| **Upper limb** | 5/5 | 3/5 |
| **Lower limb** | 5/5 | 3/5 |

Involuntary movements: Absent

**Coordination**

| **Tests** | Could not elicit | |
|---|---|---|
| **ROMBERG'S TEST** | | |
| | **Right** | **Left** |
| **FINGER NOSE TEST** | Could perform | Could not perform |
| **HEEL SHIN TEST** | Could perform | Could not perform |

**SUPERFICIAL REFLEXES**

| | **Right** | **Left** |
|---|---|---|
| **Corneal Reflex** | Present | Absent |
| **Abdominal Reflex** | Absent | |
| **Plantar Reflex** | Present | Absent |

**DEEP TENDON REFLEXES**

| | **Right** | **Left** |
|---|---|---|
| Biceps | 2+ | 4+ |
| Triceps | 2+ | 4+ |
| Supinator | 2+ | 4+ |
| Knee jerk | 2+ | 4+ |
| Ankle Jerk | 2+ | 4+ |

**SPINE EXAMINATION**

**Inspection**

- Gait: Hemiplegic gait
- Spine curvature: Normal curvature maintained.
- Visible scar, swelling, discoloration absent.

**Palpation** – no abnormality noted

**Movements**

Flexion
Extension
Lateral rotation
} Not possible

**Musculoskeletal system**

**Gals examination**

- GAIT: Unable to walk

**Upper and lower extremity**

- Weakness of left upper & lower limb
- Swelling, Tenderness, crepitus absent in B/L UL & LL

➢ RANGE OF MOVEMENTS OF LUMBAR SPINE

Forward bending
Backward bending
Lateral bending
} Not able to perform

➢ RANGE OF MOVEMENTS OF CERVICAL SPINE

Flexion
Extension
Rotation
Lateral bending
} Possible

**Rom of Upper Extremity**

| **Shoulder Joint** | **Right** | **Left** |
|---|---|---|
| Flexion | Possible | Not Possible |
| Extension | Possible | Not Possible |
| Abduction | Possible | Not Possible |
| Adduction | Possible | Not Possible |
| Internal Rotation | Possible | Not Possible |
| External Rotation | Possible | Not Possible |

| **Elbow Joint** | **Right** | **Left** |
|---|---|---|
| Flexion | Possible | Not Possible |
| Extension | Possible | Not Possible |
| Supination | Possible | Not Possible |
| Pronation | Possible | Not Possible |

| **Wrist joint, Fingers and thumb** | **Right** | **Left** |
|---|---|---|
| Flexion | Possible | Not Possible |
| Extension | Possible | Not Possible |
| Adduction | Possible | Not Possible |
| Abduction | Possible | Not Possible |

**ROM OF LOWER EXTREMITY**

| Hip Joint | Right | Left |
|---|---|---|
| Flexion | Possible | Not able to perform |
| Extension | Possible | Not able to perform |
| Adduction | Possible | Not able to perform |
| Abduction | Possible | Not able to perform |
| Internal Rotation | Possible | Not able to perform |
| External Rotation | Possible | Not able to perform |

| Knee Joint | Right | Left |
|---|---|---|
| Flexion | Possible | Not possible |
| Extension | Possible | Not possible |

| Ankle & Foot movement | Right | Left |
|---|---|---|
| Planar Flexion | Possible | Not possible |
| Dorsal Flexion | Possible | Not possible |
| Inversion | Possible | Not possible |
| Eversion | Possible | Not possible |

**RESPIRATORY SYSTEM**

| | | |
|---|---|---|
| **Inspection**<br>➢ Shape of chest-bilaterally symmetrical.<br>➢ Chest movements are symmetrical, thoraco abdominal breathing.<br>➢ Respiratory rate 20times per minute. | **Palpation**<br>➢ Trachea centrally placed<br>**Percussion**<br>➢ Resonant | **Auscultation**<br>➢ Normal vesicular breathing sound heard. No added sounds. |

**Cardiovascular System**

| | | |
|---|---|---|
| **Inspection**<br>➢ Chest bilaterally symmetrical.<br>➢ No scar mark, no visible pulsation or dilated veins. | **Palpation**<br>➢ Apex beat palpable at $5^{th}$ intercostal space. | **Auscultation**<br>➢ $S_1S_2$ heard.<br>No added sounds. |

**Gastrointestinal System**

| | | |
|---|---|---|
| **Inspection**<br>➢ Tongue- coated.<br>➢ Oral hygiene maintained.<br>➢ No mouth ulcers.<br>➢ P/A: shape of the abdomen: convex<br>➢ Umbilicus centrally placed<br>➢ No visible pulsation peristalsis or mass. | **Palpation**<br>▪ No organomegaly, no tenderness | **Auscultation**<br>▪ Bowel sounds heard 3/min |

**Stroke Specific Quality Of Life Scale (Ss-Qol)**

| Assessment Criteria | Score Obtained |
|---|---|
| ✓ Energy | Score- 3 |
| ✓ Family Roles | Score- 4 |
| ✓ Language | Score- 18 |
| ✓ Mobility | Score- 9 |
| ✓ Mood | Score- 11 |
| ✓ Personality | Score- 10 |
| ✓ Self-Care | Score- 5 |
| ✓ Social Roles | Score-8 |
| ✓ Thinking | Score- 9 |
| ✓ Upper Extremity Function | Score-11 |
| ✓ Vision | Score-15 |
| ✓ Work/Productivity | Score- 9 |
| **TOTAL SCORE 112/245** | |

**Investigations**
CT Brain-Impression
Focal hypodense lesion in corona radiata.

***Ashtavidha Pareeksha***
- *Nadi* : 76/min
- *Mutra* : 7-8 times / day;1-2 times / night
- *Mala* : once in two days (constipated)
- *Jihwa* : *lipta*
- *Shabda* : *prakruta*
- *Sparsha* : *anushna sheeta*
- *Drik* : *prakruta*
- *Akruti* : *krusha*

***Dashavidha Pareeksha***
- *Prakruti* : *Vata pittaja*
- *Vikruti:*

*Hetu* - *aharaja*: intake of curd, wine, consumption of pork, fish etc, sour items, *katu rasa ahara ati sevana*
- *viharaja*: excessive exposure to sun & fire, physical exertion
*- manasika: chinta, shoka*
*Dosha: vata pradana tridosha*
*Dushya: rakta, mamsa, meda, snayu, sira*
*Prakruti : chirakari*
*Desha : sadarana*
*Kala : sharat ritu*
*Bala : madyama*
*Sara : avara*
*Samhanana : avara*
*Pramana : avara*
*Satmya : vyamishra*
*Satva : avara*
*Ahara Shakti*
*-abhyavaharana Shakti: avara*
*-jarana Shakti: avara*
*Vyayama Shakti: avara*
*Vaya: madyama*

***SAMPRAPTI***

*Nidana Sevana*
↓
*Sama Pitta Kapha* with *Vata prakopa*
↓
*Sthana Samshraya* in *Urdhvaga dhamani*, leading to *nirudha marga* results in *avrana*
↓
*Masthiska dhatu kshaya*
↓
*Karma Kshaya –Vama paksha hata, cheshta nivritti, ruja*
↓
*Pakshagata* in *Vama Bhaga*

***Samprapti Gataka***
- Dosha : *vata pradana tridosha*
- *Dushya* : *rasa, rakta, sira, snayu,*
- *Agni* : *jataragni, dhatuvagni*
- *Srotas* : *rasavaha, raktavaha*
- *Srotodushti prakara* : *sanga.*
- *Udbhava sthana* : *pakvashaya*
- *Sanchara sthana* : *Vama/ Dakshina Sira, Dhamani, Snayu*
- *Vyaktastana* : *Vama parswa*
- *Adhistana* : *masthishkagata shiras*
- *Rogamarga* : *madyama*
- *Sadyasadyata* : *kruchrasadya.*

***Vyavachedaka Nidana***
- *Pakshagata*
- *Sarvanga vata*
- *Asthimajjagata vata*
- *Ardita vata*

| DISEASE | *LAKSHANAS* | INCLUSION | EXCLUSION |
|---|---|---|---|
| *Ardita*[4] | *Ardha mukha sankocha, vakrata of nasa, bhru, lalata, akshi, hanu, stabda netrata, deena, samutkshipta, danta chalana, sravana badha, pada, hasta, akshi, janga uru, shanka, shravana, ganda ruk* | Deviation of *asya* to one side | All other symptoms are absent |
| *Sarvanga vata*[5] | *Vata prakopa* in *sarva deha* leads to *hasta pada sankocha* | *Sankocha* of *hasta* and *pada* of left side of the body. | All the four limbs are not affected. |
| *Asthi Majjagata* | *Bheda* of *asthi* and *parvas* *Sandhi shoola* | *Mamsa balakshaya* *Ruk* | Complete loss of movements of *hasta* |

| | | | |
|---|---|---|---|
| *vata*[6] | *Bala mamsa kshaya*<br>*Aswapna Ruk* | | *pada.* |
| *Pakshagata*[7] | *Paksha hatha*<br>*Cheshta nivritti* of *Ardha shareera.*<br>*Ruja Vaksthamba* | *Paksha hatha*<br>*Cheshta nivritti* of *Ardha shareera.*<br>*Ruja* | _ |

***Vyadhi Vinischaya***

*Avarana janya vama bhaga pakshagata*

**Differential Diagnosis Based On the Anatomical Location**

| Sign | UMN lesion | LMN lesion | Extrapyramidal | Cerebellar |
|---|---|---|---|---|
| Power | **Weakness** | Weak | No weakness | No weakness |
| Wasting and atrophy | **Absent** | Present after an interval | None | None |
| Fasciculation | **None** | Present after an interval | None | None |
| Tone | **Spasticity** | Flaccidity | Rigidity (Cog wheel) | Normal/Reduced |
| Deep tendon reflexes | **Exaggerated** | Reduced/absent | Normal | Normal/Pendular |
| Superficial reflexes | **Lost** | Lost | Normal | Normal |
| Plantar response | **Extensor** | Flexor | Flexor | Flexor |
| Coordination | **Reduced due to weakness** | Reduced due to weakness | Normal but slow | Impaired |

| Cortical | Subcortical | Brainstem |
|---|---|---|
| ▪ Monoplegia/ Contralateral hemiplegia<br>▪ Speech disturbance<br>▪ Jacksonian convulsions and headache<br>▪ Cortical type of sensory loss | ▪ Monoplegia/ **Contralateral hemiplegia**<br>▪ Speech disturbance<br>▪ **Loss of tactile localization and discrimination** | ▪ Vertigo<br>▪ Nausea<br>▪ Vomiting<br>▪ Crossed hemiplegia<br>▪ Brainstem syndrome.<br>▪ Horner's syndrome.<br>▪ Cerebellar involvement<br>**Pons**<br>▪ Deep coma, Pin point pupil, hyperpyrexia, decortical rigidity, Absence of lateral movement of eye on head turning.<br>**Mid brain and medulla**<br>▪ Loss of consciousness,<br>▪ Quadriplegia<br>▪ Cheyne stroke breathing<br>▪ Decerebrate rigidity |

**DIAGNOSIS BASED ON PATHOLOGY**

| | Cerebral hemorrhage | Cerebral thrombosis | Embolism |
|---|---|---|---|
| Onset | Sudden | **Step wise progression** | Acute/Stormy |
| Precipitating factor | During exertion | **During sleep** | During exertion |
| Headache | Severe | **Less** | Absent |
| Vomiting | Common | **Less** | Less |
| Convulsion | Absent | **Common** | Rare |
| Unconsciousness | Common | **Variable** | Rare |
| Neck Stiffness | May present | **Absent** | Absent |
| Blood Pressure | High | **May be high** | Normal |
| Pulse | Low | **Normal** | Irregular |
| Shifting Hemiplegia | Never | **Never** | May Present |
| Cheyne stroke breathing | Usually present | **Usually absent** | Usually absent |

**DIAGNOSIS BASED ON THE PROGRESSION OF THE DISEASE**

✓ Transient ischemic attack (TIA)
✓ Stroke in evolution
✓ Complete stroke
✓ Reversible ischemic neurological deficit (RIND)
✓ Partial non-progressive stroke (PNS) due to thrombus

**DIAGNOSIS**

✓ *VAMA PARSHVA PAKSHAGATA* IN TERMS OF CVA OF THROMBOTIC ORIGIN INVOLVING MCA.

***CHIKITSA SUTRA***

- स्वेदनं स्नेहसंयुक्तं पक्षाघाते विरेचनम्॥

Ch.chi.28/100

- अनभिष्यन्दिभिः स्निग्धैः स्रोतसां शुद्धिकारकैः।

कफपित्ताविरुद्धं यद्यच्च वातानुलोमनम्॥

सर्वस्थानावृतेऽप्याशु तत् कार्यं मारुते हितम्।

यापना बस्तयः प्रायो मधुराः सानुवासनाः॥

Ch.chi.28/239

**Treatment Given**

| Date | Treatment Given | Observation |
|---|---|---|
| 08/07/2021 | 1. *Panchakola churna* 1tsp with hot water TID ½ hr BF<br>2. *Ashtavaraga kashaya* 3tsp with 6 tsp of lukewarm water BD ½ hr BF<br>3. Cap Palsineuron 1 TID AF | ➢ Loss of strength in left half of the body.<br>➢ Difficulty & loss of balance in walking (Cannot walk without the help of walker).<br>➢ Sleep- disturbed<br>➢ Appetite – decreased. |
| 09/07/2021 to 14/07/2021 | 1. *Panchakola churna* 1tsp with hot water TID ½ hr BF<br>2. *Ashtavaraga kashaya* 3tsp with 6 tsp of lukewarm water BD ½ hr BF<br>3. Cap Palsineuron 1 TID AF<br>4. Cap Stresscom 1 BD AF | ➢ Bowel irregular, hard stools, constipation.<br>➢ Appetite – Improved<br>➢ Bowel cleared –passes once in a day.<br>➢ Sleep- improved |
| Planned for *Virechana Karma* | 1. *Snehapana* with *Ashwagandha ghrita* 30 ml<br>1. *Snehapana* with *Ashwagandha ghrita* 50 ml | ➢ Loss of strength in left half of the body.<br>➢ Difficulty & loss of balance in walking (Cannot walk without the help of walker). |
| 15/07/2021 | 1. *Snehapana* with *Ashwagandha ghrita* 70 ml | |
| 16/07/2021 | 3 days *vishramakala*<br>*1. Sarvanga abhyanga* with *Bala ashwagandhadi taila*<br>*2. Bashpa sweda* | ➢ Headache |
| 17/07/2021 | 1. *Sarvanga abhyanga* with *Bala ashwagandhadi taila*<br>*2. Bashpa sweda*<br>*3. Virechana karma* with 100 ml of *Gandharva hastadi taila*.<br>*Anupana – Ushna jala.* | ➢ Generalized weakness<br>➢ *Sneha siddhi lakshanas* attained |
| 18/07/21 to 20/07/21 | Instructions were given<br>*1. Samsarjana krama*<br>Patient got discharged and review after 3 days (on 25/07/21) is advised | ➢ Strength in left half of the body improved by 10-15%.<br>➢ Difficulty & loss of balance in walking |
| 21/07/21 | **Patient came back hospital on 29/07/21**<br>*1. Sarvanga abhyanga* with *Bala ashwagandhadi taila*<br>*2. Bashpa sweda*<br>3. *Shiropichu* with *Ksheerabala taila* | No: of *vegas* 9<br>*Samsarjana krama* given for 3 days. |
| 22/07/21 to | 4. Physiotherapy | |

| | | |
|---|---|---|
| 24/07/21<br><br>29/07/21<br>to<br>31/07/21<br><br>01/08/21<br>to<br>08/08/21 | **Orally**<br>*Ashwagandharishta* 3tsp with 6tsp of water twice a day A/F<br>*Ashtavarga kashaya* 3tsp twice with 6 tsp lukewarm water twice a day B/F<br>Palsineuron 1-1-1 B/F<br><br>1. *Sarvanga abhyanga* with *Bala ashwagandhadi taila*<br>2. *Bashpa sweda*<br>3. *Shiropichu* with *Ksheerabala taila*<br>4. Physiotherapy<br>5. *Mustadi yapana basti(Yoga basti)*<br><br>Ingredients<br>*Anuvasana- Mahamasha taila* 100ml<br>*Niruha*:<br>Honey : 30 ml<br>*Saindhava* : 8 gm<br>*Mahamasha taila* : 80 ml<br>*Kalka* in the packet-1<br>*Ksheerapaka:*<br>▪ *Mustadi yapana basti kwatha churna* -100gm<br>▪ Water- 1200ml<br>▪ Milk- 400ml<br>Boil and reduced to 400ml | ➢ Strength in left half of the body improved by 20%.<br>➢ Pain in left half of the body.<br>➢ Difficulty in walking.<br>➢ Able to walk few steps without the help of walker – balance improved<br><br>Same complaints persisted<br><br>1. By the end of *basti* patient was able to walk without support.<br>2. Balance while walking improved.<br>3. Pain in left half of body reduced by 70%.<br>4. Grasping power increased.<br>5. Can able to climb the stairs without support.<br>6. Marked improvement noticed in walking and standing. |

| Date | 1/8/21 | 2/8/21 | 3/8/21 | 4/8/21 | 5/8/21 | 6/8/21 | 7/8/21 | 8/8/21 |
|---|---|---|---|---|---|---|---|---|
| | A | N | A | N | A | N | A | A |

| | | |
|---|---|---|
| | **Orally**<br>Same medicines continued | |

| **IMPROVEMENTS NOTICED AFTER THE COURSE OF TREATMENT** | |
|---|---|
| **BEFORE TREATMENT** | **AFTER TREATMENT** |
| ➢ Loss of strength in left half of the body.<br>➢ Difficulty & loss of balance in walking (Cannot walk without the help of walker).<br>➢ Pain in left half of the body<br>➢ Generalized weakness<br>➢ Stroke specific quality of life scale (ss-qol)-112/245 | ➢ Strength in left half of the body improved by 60%.<br>➢ Pt was able to walk without the help of support.<br>➢ Can able to climb the stairs without support.<br>➢ Pain in left half of body reduced by 70%.<br>➢ Grasping power improved.<br>➢ Stroke specific quality of life scale (ss-qol)-185/245 |

## DISCUSSION

**Rationality of adopting *Virechana Karma***

***Pakshaghata chikitsa sutra***: *Chikitsa sutra* of *Pakshaghata* explained by all *Acharyas* includes *virechana*. As per *Charaka*, *Snehana*, *Swedana*, *Virechana* are the main treatments for *pakshaghata*.[8] *Acharya Susruta* describes the selection criteria of *pakshaghata* patient suitable for treatment and he says the initial line of management of *pakshaghata* is through *snehana*, *swedana* and *mrudu shodhana* (*Mrudu virechana*)[9] He also advices particular duration for *chikitsa* and gaping between each course of treatment. *Snigdha virechana* is advised by *Vagbhata* in *pakshaghata*.[10]

*Pakvashaya* is the seat of *Vata* and *Virechana* is advised in *Pakvashayasamutthana vyadhi* as it is the nearest route of expulsion of *dosha*. The involvement of *Sira* and *Snayu* in the *Samprapti* of *Pakshaghata* accounts the role of *Raktadhatu* in *Pakshaghata* for which *Virechana* is the treatment. *Masthishkamajja* is the *Adhishtana* of *Pakshaghata* and *Virechana* holds good in treating *Majjadhatu dushti* and *Majjadharakala vikara*. *Avarana* to *Vatamarga* plays big role in the development of *Pakshaghata* and associated symptoms of other *dosha* are also expressed in it. *Virechana* is advisable in both conditions. *Virechana* brings the *Pranavata* in its normal pathway hence it is useful in *Pranavata dushti* taking place in *Pakshaghata*. As the main pathology in

*Pakshaghata* takes place in *Masthishka*, there is mental and physical impairment to the patient. *Budhiprasadana* and *Dhatusthiratwa* are the benefits of *Virechana karma*. Thus, *Virechana* can act improve the mental and physical conditions of the patient.

**Rationality of adopting *Basti Chikitsa***

*Acharya Charaka* has considered, *Basti Chikitsa* as *Ardhachikitsa*, while some authors consider it as *Sampoorna Chikitsa*. In the *Samprapthi* of *Pakshaghata*, *Vata* is the *Pradhana dosha* involved in the disease *Pakshaghata* and *Basti Chikitsa* is regarded as prime line of treatment for *Vata dosha*. So, *Basti chikitsa* can be adopted depending on the *avastha* of the *Pakshaghata*. *Basti* is not only best for *Vata* disorders it also equally effective in correcting the morbid *Pitta, Kapha* and *Rakta*.

***Bastivarte cha pitta cha kaphe cha raktham va shasyate***.

***Yapana Basti***

The *Basti* which maintain the lifespan for a longer period (*Ayu sthapana*) is considered as *Yapana Basti*. *Acharya Charaka* describes that *Yapana Basti* can be given in all seasons irrespective of *Kala* or *Ritu*. It is also considered as *Ubhayarthakari* as it acts as both *Shodhana* and *Shamana*. *Yapana basti* is *Sadhyobalajanana* and *Rasayana*. In *Charaka Samhita* we find the reference regarding *Basti karma* indicated in conditions like for person whose limbs have become stiff and contracted, who suffer from lameness, who is afflicted with fracture and dislocations, in those limbs are afflicted by the movement of different types of aggravation of *Vata*. *Mustadirajayapana basti* is the king of all *Yapana Basti* mentioned in classics and can be given for longer duration without any adverse effects. It is having predominant *Vatahara* and *Rasayana* properties and does *Shodhana* and *Brimhana Karma*.[11] *Acharya Charaka* mentioned '*SadyoBalajanana*' (improves the strength quickly) as the unique quality of *Rajayapana Basti*.[12] *Deepana* and *Pachana* property of *Mustadirajayapana Basti* helps in kindling of *Agni*. *Agni* is very essential for the formation of *Dhatu* and process of metabolic transformation so all the *Dhatu* get nourished well. In *Astanga Sangraha* while explaining the *Pradhanyata* of *Basti*, *Acharya Vagbhta* explained that *Basti* is mainly for *Vatapradhaneshu*, *Shigram brumhana kariytwam* hence forth in disease like *Pakshaghta* which is a kind of *Apatarpanajanya Vyadhi*, for *Brimhanartha* and *Vata Shamanartha*, hence adopted in the present study.

**Capsule Palsinueron** was given during the whole course of treatment. It is a proprietary medicine prepared by combination of *Ekangaveera Rasa, Mahavatavidhvamsa Rasa, Sameer Pannag Rasa and Sutasekhara Rasa*, and all these *Yogas* are directly indicated in *Vataja Roga*. Due to this specific type of combination, it was administered to patient to tackle symptoms like weakness and stiffness in the muscle.

***Panchakola Churna*** was administered for *Amapachana* and *Agnideepana*, as it is having predominance in *Katu Rasa, Laghu-Ruksha-Tikshna Guna* and *Ushna veerya*.

***Ashtavarga Kashaya:*** Most of the herbs used as internal medication in the current study have been studied for their antioxidant and neuroprotective activity including *Bala* (*Sida cordifolia*), *Devadaru* (*Cedrus deodara*), *Lashuna* (*Allium cepa*), *Shunti* (Zingiber officinale), and so forth.

**Physiotherapy:** The goal of physiotherapy in this setting is to enhance joint integrity and muscular flexibility, as well as to meet any delayed developmental milestones as soon as feasible. Increased circulation to all four limbs and brief pain alleviation are among the other advantages. Considering the spasticity, joint mobility and flexibility were achieved with Range of Motion (ROM) exercises, passive stretching, and peripheral joint mobilization.

## CONCLUSION

*Pakshaghata* is a *Vataja Nanatmaja Vyadhi* considered as *Mahavatavyadhi.* All *Acharya*s have emphasized that *Vata* is the predominant *Dosha* in the manifestation of *Pakshaghata*. Hence, it is essential to understand clearly the physiological and pathological aspect of *Vata* and then only appropriate treatment should be initiated. Being a *Vatavyadhi*, the description of *Virechana* as the line of management in *Pakshaghata* can be disputable. *Virechana* not only counteracts *Avarana* but improves *Dhatuposhana.* So, it is useful in both *Margavaranajanya* and *Dhatukshayajapakshaghata.*

*Basti* is the main treatment for *Vatadosha* but *Virechana* has been given the priority in *Pakshaghata*. However, in this study the treatment protocol was planned according to the *Dosha* and *Sthana Dushti* as per *Acharya Charaka*. *Sthanika Chikitsa* and *Basti karma* along with *Shamana Aushadhis* and Physiotherapy was administered to the patient according to *Vyadhi Avastha, Rogi Bala* and *Dosha Bala. Panchakarma* procedures along with certain *Shamanaushadis* showed significant improvement in the condition of the patient. Patient was able to walk independently later. The results were satisfactory and encouraging and this led to improvement in the quality of life of patient. Thus it can be concluded that ayurvedic management is clinically highly effective in the treatment of CVD like *Pakshaghata*.

**Declaration of the Patient Consent**

Written consent of the patient had been taken for publication of this case study.

## REFERENCES

1. Agnivesha Charaka, Dridabala. Charaka Samhita, Sutrasthana, Maharoga Adhyaya, Chapter 20, Verse11,Edited by Vaidhya Yadavji Trivikramji

Acharya. Chaukambha Praksahana, Varanasi, 2013; 113.
2. Walter Johnson, Oyere Onuma, Mayowa Owolabi & Sonal Sachdev. Bulletin of the World Health Organiza-tion, 2016.
3. Munjal YP API Text book of medicine. Vol-2, 9th edition New Delhi. Jaypee brothers Medical publishers (p) Ltd, 2012; 1401.
4. Vaidya Yadavji Trikamji Acharya. Charaka Samhita, Ayurveda Deepika commentary of chakrapani. Varanasi. Chaukhambha surabharathi prakashan, 2008; 618.
5. Vaidya Yadavji Trikamji Acharya. Charaka Samhita, Ayurveda Deepika commentary of chakrapani. Varanasi. Chaukhambha surabharathi prakashan, 2008; 619.
6. Vaidya Yadavji Trikamji Acharya. Charaka Samhita, Ayurveda Deepika commentary of chakrapani. Varanasi. Chaukhambha surabharathi prakashan, 2008; 617.
7. Vaidya Yadavji Trikamji Acharya. Charaka Samhita, Ayurveda Deepika commentary of chakrapani. Varanasi. Chaukhambha surabharathi prakashan, 2008; 619.
8. Acharya YT. Charaka Samhita with Ayurveda Dipika commentary of Chakrapani Datta. Chikitsa Sthana 28/100. Reprinted. Varanasi (India): Chaukhambha Orientalia, 2014; 621.
9. Acharya Y.T. Sushruta Samhita with Nibandha sangraha commentary of Dalhana acharya. Chikitsa sthana 5/19. Reprinted. Varanasi (India): Chaukhambha Sanskrit Sansthan, 2014; 427.
10. Tripathy B. Ashtanga Hridaya with Nirmala Hindi commentary. Chikitsa Sthana 21/43. Reprinted. Delhi (India): Chaukhamba Sanskrit Pratishthan, 2007; 809.
11. Govindas, Bhaishajya Ratnavalli, Balaroga Chikitsa Prakaran,71/48, edited by B.H.Mishra, A.S. Shastri, reprinted Chaukhambha Prakadhan, Varanasi, 2013; 1217-8.
12. Govindas, Bhaishajya Ratnavalli, Balaroga Chikitsa Prakaran,71/48, edited by B.H.Mishra, A.S.Shastri, reprinted Chaukhambha Prakadhan, Varanasi, 2009; 678.