

Treatment Protocol of Stroke (*Pakshaghata*) Through *Ayurveda* Medicine - A Case Study

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ABSTRACT

Stroke is a common medical emergency and the second leading cause of death worldwide. In *Ayurveda* stroke is described as *Pakshaghata*. The present study is a case report on management of stroke of a male patient aged 40 years with chief complaints of loss of function of the left upper & lower limb. He 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 complain with improvement of overall health of the patient. Treatment protocol was *snehana*, *swedana*, *mridu virechana*, *basti karma*, *murdhani taila (shirodhara)* along with internal medication which is mentioned by *Acharya Sushruta*. Before treatment NIH-Stroke Scale was 16 & Barthel index scale was 15 and after the treatment NIH-Stroke Scale was 4 & Barthel index scale was 70 providing symptomatic relief too. This reveals that *Ayurveda* treatment modalities can play a significant role in treatment of Stroke (*Pakshaghata*).

Keywords: *Virechana, Snehana, Svedana, Basti karma, Shirodhara, Abhyanga, Pakshaghata*

INTRODUCTION

Stroke is the sudden death of some brain cells due to lack of oxygen when the blood flow to the brain is lost by blockage or rupture of an artery to the brain. [1] The most common symptom of a stroke is sudden weakness or numbness of the face, arm or leg, most often on one side of the body. Other symptoms include: confusion, difficulty in speaking difficulty in seeing with one or both eyes; difficulty in walking, dizziness, loss of balance or coordination; severe headache with no known cause; fainting or unconsciousness.

Stroke is defined by the World Health Organization as 'a clinical syndrome consisting of rapidly developing clinical

signs of focal (or global in case of coma) disturbance of cerebral function lasting more than 24 hours or leading to death with no apparent cause other than a vascular origin. [2] The incidence rises steeply with age, and in many lower- and middle-income countries it is rising in association with less healthy lifestyles. About one-fifth of patients with an acute stroke die within a month of the event and at least half of those who survive are left with physical disability. [3] According to update the global burden of disease (GBD) study reported nearly 5.87 million stroke deaths globally in 2010, as compared to 4.66 million in 1990. Stroke can be correlated with the disease *Pakshaghata* described in *Ayurveda*. [4]

CASE REPORT

Table 1: History taking

Introductory history	UHID no. – 34948 IPD no. – 2439 Name – Madan Gopal Age/sex – 40/M Marital status – married Education – high school Socioeconomic status – poor Occupation – labor
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Table 1 to be continued...		
Past history	No HTN & diabetic	
Chief complaint	Unable to stand & walk. Loss of function left upper & lower limb. Incontinence of urine & stool. Loss of sensation in left upper limb. Slurred speech. Difficulty in swallowing. Unable to open eyes. Swelling in left forearm.	Since 18 month
Associated complaint	Insomnia Incomplete defecation Loss of appetite	Since 18 month
Treatment history	Ayurveda remedies	
History of Present illness	According to patient statement he was quite well 18 months back then he suddenly fell down. He had headache and body pain as associated symptoms, so he took conservative treatment as prescribed by family physician. There was no relief in associated symptoms moreover loss of function of the left upper & lower limb developed after 2 days become unable to stand and walk without support. After that the patient took some Ayurvedic treatment but there was no such significant relief. So the patient came to AIIA for better management.	

PHYSICAL EXAMINATION –

Blood pressure - 110/80mmhg Edema – left wrist joint

Pulse rate – 76/min. Pallor – No

Temperature – Afebrile Icterus – No

Respiratory rate – 20/min. Clubbing – No

SYSTEMIC EXAMINATION –

NERVOUS SYSTEM:

❖ Consciousness	Conscious
❖ Higher functions	
➤ Mental status	MMSE score – 18
❖ Cranial nerve examination	Hyposmia Ptosis in both eye Slurred speech (Rest of the cranial nerve status were normal)
➤ Olfactory	
➤ Oculomotor	
➤ Hypoglossal	
❖ Motor examination	Diminished (left upper & lower limb)
➤ Tone of muscles	Grade – 1 (left upper & lower limb)
➤ Power of muscles	Swallowing – difficulty
➤ Reflexes – superficial	Lt. biceps jerk reflex – grade - 0 Lt. supinator jerk reflex – grade - 0 Lt. knee jerk reflex – grade - 1 Lt. planter jerk reflex – grade - 3
- Deep	
❖ Gait	Ataxic gait

Grade tendon reflexes as follows –

- 0 – Absent
- 1 – present
- 2 – Brisk
- 3 – Very brisk
- 4 – Clonus

CLINICAL FINDINGS

Table 2: OBJECTIVE FINDING

S.N.	DATE	INVESTIGATION	FINDING
1	02/02/19	Brain CT-Scan	Middle cerebral artery Stroke

Table 3: SUBJECTIVE FINDING

S.N.	SYMPTOMS OF PAKSHAGHAT	
1	Vama sandhibandhan vimokshyana	Present
2	Dakshida sandhibandhan vimokshyana	Absent
3	Cheshita nivritti	Present
4	Ruja	Present
5	Vakastambha	Present
6	Akarmandyam	Present
7	Achetnam	Absent

DIAGNOSIS

On the basis of clinical presentation and CT-Scan of the brain it was diagnosed as case of Stroke (*Pakshaghata*).

TREATMENT PROTOCOL

Patient was admitted in IPD AIIA, Plan for *Snehana (Abhyanga)*, *Swedana*, *Anuvasana basti* as *Matra basti* and *Shirodhara* along with internal medication as detailed in table. [5]

Table 4: Schedule of Sarvanga Abhyanga

S.N.	Name of the drug	Quantity	Time	Duration
1	<i>Ksheerbala taila</i>	100 ml/day	30 minute/day	6 days
2	<i>Madhuyashti taila</i>	100 ml/day	30 minute/day	7 days

Table 5: Schedule of Mridu Sarvanga Basha Swedana

S.N.	Name of the drug	Time	Duration
1	<i>Dashmoola kwatha</i>	7 minute/day	14 days

Table 6: Plan for Anuvasan Basti as Matra Basti

S.N.	Name of the drug	Dose
1	<i>Ksheerabala taila</i>	60ml
2	<i>Shatpushpa kalka</i>	2gm
3	<i>Saindhav</i>	1gm

Table 7: Schedule and observation of matra basti

Day	Date	Retention time of matra basti	Observation
1 st	20/3/19	15 min	Not significant changes.
2 nd	22/3/19	20 min	Not significant changes.
3 rd	23/3/19	2 hours 30 min	Not significant changes.
4 th	25/3/19	3 hour	Slight sensation of urge for micturition and defecation.
5 th	26/3/19	2 hours 45 min	Increase in Sensation of urge for micturition & defecation and increase in body strength.
6 th	27/3/19	3 hours 30 min	Patient able to inform of urge for micturition & defecation and he was complaining of fever.
7 th	30/3/19	4 hours	Proper evacuation of stool & flatulence and increase body strength.
8 th	01/4/19	4 hours 15 min	Proper evacuation of stool & flatulence and increase body strength.
9 th	02/4/19	6 hours	Proper evacuation of stool & flatulence and lightness of the body.
10 th	03/4/19	3 hours	Lightness of the body & getting better.
11 th	04/4/19	5 hours 20 min	Improvement of sleep and speech.
12 th	05/4/19	19 hours	Patient able to swallow semisolid food and slight sense of sensation in left upper limb.
13 th	06/4/19	6 hours 40 min	<i>Swapnaanuvritti</i> (sound sleep) and lightness of the body.
14 th	08/4/19	5 hours 30 min	<i>Swapnaanuvritti</i> (sound sleep) and burning sensation in left upper limb.
15 th	09/4/19	4 hours	Patient able to stand with support and lightness of the body.
16 th	10/4/19	8 hours 25 min	Patient able to stand with support and increase body strength.

Table 8: Schedule of Shirodhara

Day	Date	Time	Observation
1 st	03/4/19	30 minute	Not significant change.
2 nd	04/4/19	30 minute	Improve sleep and speech.
3 rd	05/4/19	30 minute	Sound sleep.
4 th	06/4/19	30 minute	Sound sleep and lightness of the head.
5 th	08/4/19	30 minute	Sound sleep and lightness of the head.
6 th	09/4/19	30 minute	Sound sleep and lightness of the head.
7 th	10/4/19	30 minute	Regular & Sound sleep and overall improvement.

Table 9: Internal medication

S.N.	Name of medicine	Dose	Time	Anupana
1	<i>Gandharvhastadi kwatha</i>	40ml twice a day	Before food	Luke warm water
2	<i>Kaishore guggulu</i>	2 tab thrice a day	After food	Luke worm water
3	<i>Ashwagandhadi leham</i>	1 tsf twice a day	Morning & evening in empty stomach	Milk
4	<i>Giloy choorna</i> <i>Yashti choorna</i> <i>Vacha choorna</i>	3 gm 3 gm 500 mg twice a day	After food	Luke worm water
5	<i>Balarishtha</i>	15 ml twice a day	After food	Luke worm water
6	<i>Kamdudha rasa</i>	1 tab thrice a day	After food	Luke worm water
7	<i>Gandharvhastadi taila</i>	1 tsf	Bed time	Luke worm water

Table 10: Medication prescribed on discharge

S.N.	Name of medicine	Dose	Time	Anupana
1	<i>Ashwagandha choorna</i> <i>Giloy choorna</i> <i>Yashti choorna</i>	2gm BD 2gm BD 2gm BD	After food	Luke worm water
2	<i>Brahma rasayan</i>	1TSF BD	Before food	Milk
3	<i>Balarishtha</i>	15ml BD	After food	Luke worm water
4	<i>Shilajativadi lauh</i>	1tab BD	After food	Luke worm water
5	<i>Balashwagandha taila</i>	<i>Abhyanga</i>	-	-

RESULT

Patient did not take any contemporary medicine and he got symptomatic relief after 16 days of Ayurveda treatment. After 3rd day of the treatment, improvement was seen in incontinence of urine and stool. Ptosis,

swelling in forearm, insomnia and slurred speech was reduced after 8 days of treatment and also improved swallowing and loss of sensation in left upper limb after 11 days of treatment. But after completion of 16th day of *matra basti* along with *sarvanga abhyanga*, *vashpa swedana*,

shirodhara and internal medicine patient was able to do daily routine (eating, drinking, bathing), standing and walking by

himself with support. After that he was discharged and was advised to continue internal medicine for 15 days.

Observation

Table 11: National Institute of Health Stroke Scale (NIH-SS)

Score	NIH scale	Range of score	BT	AT
1-a	Level of consciousness	0 to 3	0	0
1-b	LoC Question	0 to 2	1	0
1-c	LoC	0 to 2	1	0
2	Best gaze	0 to 2	0	0
3	Visual	0 to 3	2	0
4	Facial palsy	0 to 3	1	0
5	Motor arm	Right 0 to 4 Left 0 to 4	0 4	0 2
6	Motor leg	Right 0 to 4 Left 0 to 4	0 3	0 1
7	Limb ataxia	0 to 2	1	0
8	Sensory	0 to 2	2	0
9	Best language	0 to 3	0	0
10	Dysarthria	0 to 2	1	1
11	Extinction and inattention (formerly neglect)	0 to 2	0	0
	Total	42	16	04

0 = no stroke, 1-4 = minor stroke, 5-15 = moderate stroke, 15-20 = moderate/severe stroke, 21-42 = severe stroke.

Table 12: Barthel index

	Domain name	Range of score	BT	AT
1	Feeding	0 = unable 5 = needs help in cutting, spreading butter, etc. or requires modified diet 10 = independent	5	10
2	Bathing	0 = dependent 5 = independent (or in shower)	0	5
3	Grooming	0 = needs to help with personal care 5 = independent face /hair/teeth/shaving (implements provided)	0	0
4	Dressing	0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces etc.)	0	5
5	Bowel	0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	0	10
6	Bladder	0 = incontinent or catheterized and unable to manage alone 5 = occasional accident 10 = continent	0	10
7	Toilet use	0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	0	5
8	Transfers (bed to chair and back)	0 = unable, no sitting balance 5 = major help (of one or two people, physical) can sit 10 = minor help (verbal or physical) 15 = independent	5	10
9	Mobility (on level surface)	0 = immobile or <50 yards 5 = wheelchair independent, including corners, >50 yards 10 = walks with help of one person (verbal or physical) >50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	5	10
10	Stairs	0 = unable 5 = needs help (verbal, physical, carrying aid)	0	5
	Total		15	70

BT = Before treatment, AT = After treatment

Table 13: Visual analog scale for pain

S.N.	SYMPTOMS OF PAKSHAGHAT	BT	AT	AF
1	Vama sandhibandhan vimokshyana	8	4	3
2	Dakshida sandhibandhan vimokshyana	0	0	0
3	Cheshta nivritti	8	3	2
4	Ruja	6	2	0
5	Vakastambha	8	2	1
6	Akarmandyam	6	2	1
7	Achetnam	0	0	0

0 = No pain, 1-3 = mild pain, 4-5 = moderate pain, 6-7 = severe pain, 8-9 = very severe pain, 10 = excruciating pain.

DISCUSSION

Acharya Charak has described Pakshaghata in vata nanatmaj vyadhi [6] and Acharya Sushrut has mention in mahavatvyadhi [7] and also Acharya Charak & Sushrut has given treatment protocol of Pakshaghata [8] which is snehana, swedana, mridu virechana, basti karma, murdhani

taila Accordingly treatment was in this patient.

Patient was admitted on 18/3/19 in IPD AIIA. Treatment was started *gandharvhashtadi kwatha*,^[9] *kaishore guggulu*,^[10] *ashwagandhadi avleha*,^[11] *giloy choorna*,^[12] *yashti choorna*,^[13] *vacha choorna*,^[14] *balarishtha*,^[15] *kamdudha rasa*,^[16] *gandharvhashtadi taila*^[17] after two days *Panchakarma* treatment started. *Sarvanga Abhyanga*^[18] was done with *ksheerbala taila*^[19] because it is *snehana vata-pittashamak & balya* and *Vashpa swedana*^[20] with *dashmoola kwatha*^[21] together *snehana & swedana* liquefies the dosha and brings them to *koshtha*.^[22] *Anuvasan basti*^[23] as a *Matra Basti*^[24] was given with *ksheerbala taila* because it is *vata-pittashamak*. After 6th day of procedure patient was complaining fever and itching in whole body due to severe aggravating of *pitta sanshrishta vata dosha*. So that internal medicine was revised *Avipattikar choorna*^[25] 5gm BD as a was given of and *eladi kerum*^[26] for local application added with previous medicine & *Panchakarma* procedure was stopped for two days till the *Jwara* coming down. After that started *Shirodhara*^[27] with coconut oil because of *pitta-vata shamak*. And of *sarvanga abhyanga* was given with *Madhuyashti taila*^[28] it's also *vata-pitta shamak* property & *mridu vashpa swedana* with *dashmoola kwatha* and *matra basti* with *ksheerbala taila*.

CONCLUSION

Several reports suggest that in about 20% of non-cardio-embolic strokes in young (<45 years), the commonly believed risk-factors (e.g. hypertension diabetes mellitus, tobacco use, etc.) are absent.^[29] On the basis of results observed in this case; it can be said that, *Ayurvedic* management with *Panchakarma* procedure like *Abhyanga*, *Vashpa swedana*, *Anulomana*, & *Shirodhara* along with oral *Ayurveda* medication are effective in the management of *Pakshaghata*. These approaches are safe, cost effective and easy to follow. The

patient was followed up for two months and there was no any deterioration. As this is a single case study, there is a need for large number of patients randomized clinical trial to establish the effectiveness of the above treatment protocol in the management of *Pakshaghata*. This case report serves as a lead for further researches in the management of Stroke (*Pakshaghata*).

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