



## AYURVEDIC MANAGEMENT OF PAKSHAGATHA (RIGHT HEMIPLEGIA-STROKE): A CASE REPORT

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<https://doi.org/10.46607/iamj4310082022>

(Published Online: August 2022)

### Open Access

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Article Received: 04/07/2022 - Peer Reviewed: 24/07/2022 - Accepted for Publication: 10/08/2022



## ABSTRACT

A stroke is said to be a sudden focal neurological deficit resulting from abnormality of cerebral vasculature and its contents. The estimated prevalence rate of stroke range, from 84-262/100,000 in rural and 334-424/100,000 in urban areas. There is also a wide variation in the case of fatality rate with 42% in some parts of India. With an alarming increase in the incident rate, the advanced medicinal system through which stroke is managed has some limitations in treating this condition and unintended results in long-term treatment. This article is about the diagnosed case of stroke presented with right-sided hemiplegia. With left cerebral artery pathology. The *Ayurvedic* diagnosis of *Dakshina pakshaghata* was made and managed with *Pakshaghata* treatment modalities. The assessment was made before and after treatment as per the guidelines of the national institute of health scale (NIH-SCALE). The patient got significant improvement in the signs and symptoms especially facial palsy, aphasia, and dysarthria. There is also encouraging improvement in right upper and lower limb movements. There was a gradual recovery in memory, mood, language ability, and self-care.

**Keywords:** *Ayurveda*, *Pakshaghata*, *Matra basti*, *Vestana*, Stroke, Hemiplegia.

## INTRODUCTION

*Pakshagatha* is explained under *Vata vyadi* and it is considered to be one of the *Vataja nanathmaja vyadi* according to different *Ayurveda samhitas*<sup>1</sup>. *Pakshagatha* denotes impairment of *karmanedriyas* (sense organs), *jnanendriyas* (sensory organs), and also *Manas*(mind). Were *Paksha* being half side of the body and *Aagatha* means impairment. So, paralysis of half side of the body is considered *Pakshagatha*. The features of *Pakshagatha* include *Chestahani* (impairment of motor activity), *Ruja*(pain), *Vakstamba* (slurred speech), and *Hasta paada sankocha* (contracting of the upper and lower limb). It also includes *Vaktravakratha* (mouth deviation), *Spoorana of Jihva* (fasciculation of the tongue)<sup>2</sup>. *pakshagatha* correlated to hemiplegia/stroke since the symptoms match.

Stroke is defined as the rapid onset of focal neurological deficit resulting from diseases of the cerebral vascular and its contents. Stroke represents 3<sup>rd</sup> most common cause of death in developed countries<sup>3</sup>. In 2020 there were 7.08 million deaths attributed to cerebrovascular disease worldwide, in those 3.48 million deaths from ischemic stroke, 3.25 million deaths from intracranial haemorrhage (ICH), and 0.35 million from subarachnoid haemorrhage. In 2019, the stroke attack rate was 37 per 100,000 a decrease of 6.6% from 2009, whereas the actual number of stroke deaths increased 16.4% during the same period<sup>4</sup>. in spite of intervention with contemporary medicinal science.

The middle cerebral artery divides into the right middle cerebral artery and a left middle cerebral artery. The right middle cerebral artery provides blood to a large part of the right side of the brain. The artery divides into smaller artery branches. Based on where the blockage occurs in the artery or the branches, the effects and the clinical presentation of MCA occlusion will vary. Contra lateral hemiplegia, hemianesthesia with or without homonymous hemianopia, and aphasia (dominant hemisphere) are common manifestations. Occlusion of the superior division presents as contralateral hemiparesis with the sensory deficit and expressive aphasia (Broca's aphasia) whereas Wernicke's aphasia (sensory aphasia) is frequent in the

case of a lesion of the inferior division of the dominant side<sup>5</sup>. In spite of anatomical understanding of etiopathogenesis of stroke, its contribution to treating this condition has markable limitations.

*Ayurveda* is a science of life in which all disease is managed on the basis of the *Roga bala, Rogi bala*. Hence treatment modalities vary from patient to patient in spite of the same diagnosis. Here presenting a case of *Pakshagatha* treated by *Ayurveda* modalities by tapering allopathic drugs to nil, got promising improvement.

### CASE DESCRIPTION:

A 57-year-old male patient in a wheelchair with Ryles tube was shifted from the multispecialty modern hospital who was affected with loss of motor function of his right side, deviation of mouth and aphasia, diagnosed with stroke and being treated for last 15 days.

### HISTORY:

A male patient aged 57 years was apparently normal 2 years back, then he suddenly developed a loss of strength in the right side of the body for which he took folklore medicine for 1 week. But he doesn't find any relief from it. Then after he consulted a neurologist in Mangalore where he was given a blood thinner, anti-coagulants, and antihypertensive medications. And he advised continuing the medication for 6 months. After which he was symptomatically better and able to perform all the activities but not fully recovered from it. Around 6 months back started to take herbolife products and he stopped the allopathic medications.

When he was attending the family function 20 days back, he had a quarrel with his family member for which he got stressed on 19/05/2022. On the same day evening, his family members observed him with rigidity in the right upper and lower limb with a slight deviation of the mouth towards the left side, and also with an inability to speak and swallow, soon the patient was taken to a nearby super specialty hospital and advised for plain CT Brain scan. As per the report he was diagnosed with CVA infract in the mid cerebral artery area. Immediately he was admitted

there and managed with blood thinner, anti-coagulants, and antihypertensive medications fed with Ryles tube for which he doesn't get relief and he was admitted to our hospital for better management.

**PAST HISTORY:**

K/c/o type II diabetic mellitus for 3 years (on medication T metossil ML 1 BD) and k/c/o hypertension for 2 years (on medication T clinidipine 10mg 1 BD)

**VITALS:**

Blood pressure: 160/100 mmHg

SP0<sub>2</sub>: 93%

Respiratory rate: 18 per min

Heart rate: 67 bpm

**DIAGNOSIS:**

Cerebro vascular accident – Infarct (left side)

**PLAIN CT FINDINGS:**

III-defined area of hypo density is seen involving the left fronto parietal lobe with volume loss 0- suggesting chronic infract with encephelomalacia.

**TREATMENT:**

On the 1<sup>st</sup> day of admission, all the medication mentioned in table 1 was given crushed and given in Ryles tube along with grueling water, green gram soup, and rava gruel alternatively every 3 hours. On the 4<sup>th</sup> day of admission Ryles tube was removed and after confirming their swallowing ability, given the same medicine by the spoon and the patient was able to swallow without much difficulty. Also scrapped 1 pinch of *Vacha churna* with 2 ml of honey on the tongue once in the early morning.

**Table 1 interventions:**

List of oral medication ingested through Ryles tube along with 200ml of grueling water/green gram soup/Rava gruel in a gap of every 3 hours

Sl, no	Date	Intervention
1	04/06/2022 to 14/06/2022	Bruhath vatachintamani rasa 1 tid
2	04/06/2022 to 14/06/2022	Lashunadi vati 2 tid
3	04/06/2022 to 14/06/2022	Brahmi grutha 10ml od
4	04/06/2022 to 09/06/2022	Pushkaramoolasava 10ml tid
5	04/06/2022 to 14/06/2022	Bhargava proktha rasayana 50grm od
6	10/06/2022 to 14/06/2022	Drakhsharista 10ml tid

On 07/06/2022 Ryle’s tube was removed, and oral medication was crushed and given by spoon with the above-mentioned dose only.

**Table 2 therapies:**

Sl no.	Date	Therapies
1	05/06/2022 to 14/06/2022	Vestana with mahamasha taila
2	08/06/2022 to 14/06/2022	Dasamoola niruha basti and sahacharadi anusvasana basti
3	09/06/2022 to 14/06/2022	Abyanga with mahanarayana taila & naadi sweda with balamoola kwata
4	10/06/2022 to 14/06/2022	Physiotherapy

**RESULTS:**

**Table 3 CNS EXAMINATION:**

The result was concluded based on cns examinations done before treatment and after treatment

Central Nervous System Examination		04/06/2022 Before treatment	14/06/2022 After treatment
1. Higher mental functions			
	<b>1. Level of consciousness</b>	<b>Confusion and drowsy</b>	<b>Fully conscious</b>
	<b>2. Talk</b>	<b>No talk</b>	<b>Able to pronounce syllabic words</b>
	<b>3. Mood</b>	<b>Sadness</b>	<b>Normal</b>
	<b>4. Orientation</b>	<b>No orientation of person, place, time</b>	<b>orientation of person, place, time</b>
	<b>5. Memory</b>	<b>No recent memory No remote memory No immediate memory</b>	<b>All recent memory, remote and immediate memory improved to normal level</b>
2. SENSORY system EXAMINATION	<b>1. Two-point discrimination</b>	<b>Absent</b>	<b>Can elicit</b>
	<b>2. Proprioception</b>	<b>Absent</b>	<b>Present</b>
	<b>3. Temperature</b>	<b>Affected</b>	<b>Normal</b>
3. MOTOR SYSTEM EXAMINATION	<b>1. muscle bulk</b>	<b>Affected</b>	<b>Normal</b>
	<b>2. muscle tone</b>	<b>Hypotonic</b>	<b>Normal</b>
	<b>3. superficial reflexes</b>		
	➤ <b>Abdominal</b>	<b>Absent</b>	<b>Present</b>
	➤ <b>Babinski</b>	<b>Absent</b>	<b>Present</b>
	➤ <b>Corneal</b>	<b>Absent</b>	<b>Present</b>
	<b>4. Deep tendon reflexes</b>	<b>(Right side)</b>	<b>(Right side)</b>
	➤ <b>Biceps</b>	<b>Exaggerated</b>	<b>Mild exaggeration</b>
	➤ <b>Triceps</b>	<b>Exaggerated</b>	<b>Mild exaggeration</b>
	➤ <b>Supinator</b>	<b>Exaggerated</b>	<b>Mild exaggeration</b>
	➤ <b>Knee</b>	<b>Exaggerated</b>	<b>Mild exaggeration</b>
	➤ <b>Ankle</b>	<b>Exaggerated</b>	<b>Mild exaggeration</b>
4. COORDINATION TEST	<b>1 Finger nose test</b>	<b>Not possible</b>	<b>Mild movement</b>
	<b>2. Heel shin test</b>	<b>Not possible</b>	<b>Mild movement</b>
5. Cranial Nerve Examination (Only Affected Nerves Are Added)			
	<b>1. Olfactory</b>		
	➤ <b>Sensory</b>	<b>Anosmia</b>	<b>Normal</b>
	<b>2. Optic</b>	<b>Not elicited</b>	<b>Not elicited</b>
	<b>3. Oculomotor</b>	<b>Movement lateralized to the right side</b>	<b>Can move in all directions</b>
	<b>4. Trochlear</b>		
	<b>5. Abducent</b>		

	<b>6. trigeminal</b> ➤ Corneal reflex ➤ Jaw jerk ➤ Eye blink	Absent  Absent Absent	Normal Normal Normal
	<b>7. facial</b> ➤ Frowning ➤ Closing ➤ Clenching ➤ blowing	Not possible(R) Not possible(R) Not possible(R) Not possible(R)	possible(R) possible(R) possible(R) possible(R)
	<b>8. vestibule cochlear</b> ➤ Rhine's ➤ Weber's ➤ Vertigo	BC>AC Lateralized (R) Present	AC>BC Normal Absent
	<b>9. Glossopharyngeal</b>	Normal	Normal
	<b>10. Vegas</b>	Normal	Normal
	<b>11. Assesary</b>	Normal	Normal
	<b>12. Hypoglossal</b>	Normal	Normal

## DISCUSSION

The patient was taking anti-hypertensive, statins, a blood thinner, and anti-coagulants prior to the Ayurvedic treatment, which was gradually tapered off during the course of the treatment. The patient is of poor built, having *Avarabala* (Poor strength), *Avarasatva* (Poor mental strength), and *Avara Jeema Shakti* (Reduced digestion power)<sup>7</sup>. *Basti* like *Dasamoola niruha basti* and *Sahacharadi ansvasana basti*<sup>8</sup>. *Hemavathi vacha* was given to improve the speaking ability by enhancing the functional ability of the tongue<sup>9</sup>. *Bhramhi grutha* to improve overall cognitive ability like memory, speech, and intelligence, also augments sense organs<sup>10</sup>. *Lashunadi vati* to correct the *Agni* (digestive fire) and does *vatalulomana* which supports normal functioning at cell level<sup>11</sup>. Since *Pakshagatha* is a *Vataja nanathmaja vyadi* and to pacify the abnormal *Vata*, *Bruhat vata chintmani*

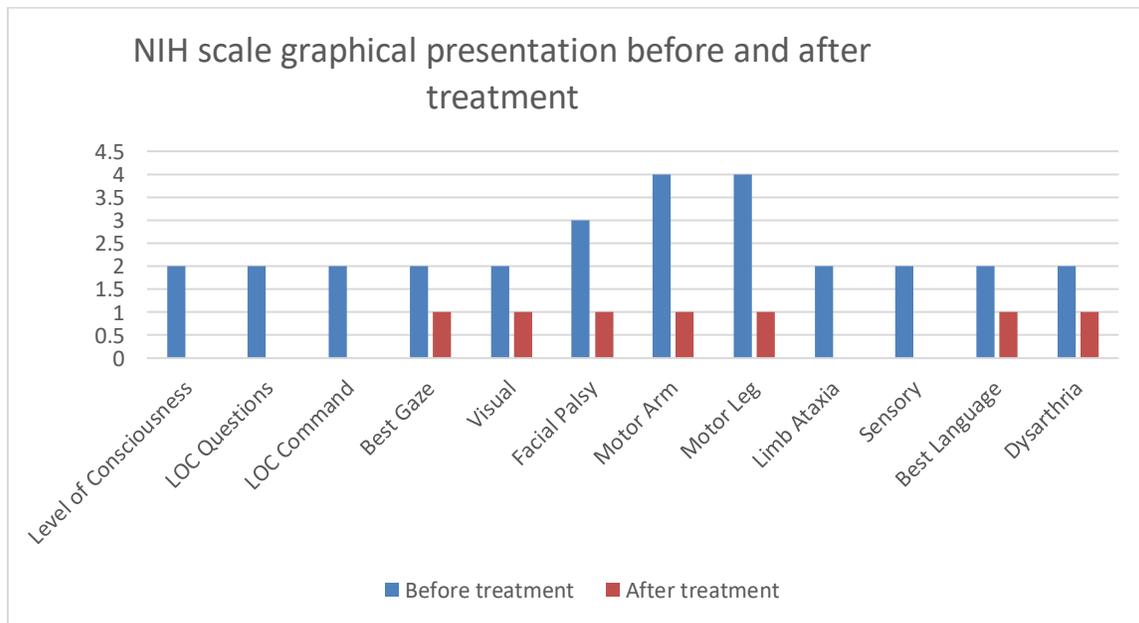
*rasa* was added<sup>12</sup>. *Bargavaprokta rasayana* was supplemented to boost the *vikara vighata bhava*, that is, diseases neutralizing ability of the body. *Draksharista* is prescribed to counter generalized weakness and *Pushakaramoolasava*, to normalize the allergic reaction against the Ryles tube.

Therapies like *Abyanga* with *Mahanarayana taila*<sup>13</sup>, *Naadi sweda* with *Balamoola kwata*, and *Vestana* with *Mahamasha taila*<sup>14</sup> were advised to strengthen the extremities which supple enough nutrition to local parts and to improve blood circulation. Physiotherapy was also added as a supportive measure. By the end of the treatment, the patient started to swallow easily, improved speech and cognitive abilities, and also there was an improvement in muscle strength and power of the extremities. The NIH scale assessment was done before and after treatment and the findings was given below in Table no.4.

**Table 4:** Assessment scale<sup>15</sup>

Sl, no.	NIH scale variants	Range of score	Before treatment	After treatment
1a	Level of Consciousness	0 to 2	2	0
1b	LOC Questions	0 to 2	2	0
1c	LOC Command	0 to 2	2	0
2	Best Gaze	0 to 2	2	1
3	Visual	0 to 2	2	1
4	Facial Palsy	0 to 3	3	1
5	Motor Arm	0 to 4	4	1
6	Motor Leg	0 to 4	4	1
7	Limb Ataxia	0 to 2	2	0
8	Sensory	0 to 2	2	0
9	Best Language	0 to 3	2	1
10	Dysarthria	0 to 2	2	1
	<b>Total</b>	<b>42</b>	<b>29</b>	<b>7</b>

The maximum score is 42, signifying severe stroke; the Minimum score is 0, a normal exam; Scores greater than 15-30 are more severe.



## CONCLUSION

This case study demonstrates the successful management of a case of *Pakshaghata* (Middle Cerebral Artery infarct) using *Ayurvedic* treatment alone. There was a significant improvement in all assessments of NIH criteria, being the total score has reduced from 29 to 07. More studies are to be conduct-

ed on ischaemic stroke which is otherwise managed with contemporary drugs like anti-hypertensive, anti-dyslipidemic, and anti-coagulant even thrombolytic agents have to be treated with *Pakshaghata Chikitsa*, to bring the *Ayurveda* treatment under the limelight and to facilitate patient community, good quality of health.

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**Source of Support: Nil**

**Conflict of Interest: None Declared**

How to cite this URL: Vijayendra Bhat et al: Ayurvedic Management of Pakshagatha (Right Hemiplegia/Stroke): A Case Report. International Ayurvedic Medical Journal {online} 2022 {cited August 2022} Available from: [http://www.iamj.in/posts/images/upload/2305\\_2311.pdf](http://www.iamj.in/posts/images/upload/2305_2311.pdf)