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AYURVEDIC MANAGEMENT OF HEMORRHAGIC STROKE: A CASE STUDY

Sahu Rajesh S.[1]*, Gulhane Jayant D.[2] and Imade Mohan V.[3]

[1]PG Scholar, Department of Kayachikitsa, Gac Nagpur.

[2]Associate Professor, Department of Kayachikitsa, Gac Nagpur.

[3]PG Scholar, Department of Kayachikitsa, Gac Nagpur.

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***Corresponding Author**
Dr. Sahu Rajesh S.
PG Scholar, Department of Kayachikitsa, Gac Nagpur.

ABSRTACT

Cerebrovascular event (CVE) is second leading cause of death and disability worldwide which affects people in their "golden years". The goal of treatment is to reverse acute brain injury and to prevent future neurologic injury. The most important risk factor for Intra cerebral haemorrhage (ICH) is poorly controlled chronic hypertension followed by bleeding diasthesis, thrombolysis for myocardial infarction and cortical thrombosis. The focal signs and symptoms accompanying ICH reflect the location of haemorrhage. Thalamic haemorrahges can result in contralateral sensory loss and weakness, while if they extend to or compress the superior midbrain, they may result in depressed signs. The onset can be deceptive, with initial nonspecific brainstem symptoms (e.g. vertigo or double vision) followed a few hours or even days later by progressive clinical features, including gait, trunk or limb ataxia, nystagmus, headache, vomiting. Treatment includes to stop or reduce the bleeding in the initial few hours after the haemorrhage, removing blood from the parenchyma or ventricles management of raised intracranial pressure, use of drug to reduce the effect of blood, adequate general supportive measures.[1] The present article deals with a diagnosed case of hemorrhagic stroke presenting with left sided hemiplegia. The Ayurvedic diagnosis of *Vama Pakshaghata* was made and managed with *Deepan Paachan, Anuloman* followed by as *Abhyanga, Rakta-Pittaghna Basti, Majja Basti, Virechan, Shirodhara* and *Mustadi yapan Basti*. Two assessments were made before and after treatment using the National Institute of Health Stroke Scale (NIH-SS),[2] Barthel index score[3] and The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)score.[4] Maximum improvement was noticed in the symptoms of facial palsy, aphasia and dysarthria. There were also

improvement in left lower and upper extremity functions. At the end of the treatment he could walk without support. Assessment showed considerable recovery in language ability, mobility, energy, mood, self-care and vision. *Panchakarma* plays a key role in the management of stroke/*Pakshaghata*. The recovery was promising and worth documenting.

KEYWORDS: Ayurveda, *Pakshaghata*, Haemorrhagic Stroke, Hemiplegia.

INTRODUCTION

Stroke, sometimes referred to as a cerebro-vascular accident (CVA), is the loss of brain function due to a disturbance in the blood supply to the brain. This disturbance is due to either ischemia (lack of blood flow) or hemorrhage. Spontaneous intra-cerebral hemorrhage (ICH) is a very serious, highly disabling condition in which the treatment is very limited. The prevalence of stroke in India is approximately 200 per 100,000 persons and 9.94% of total deaths. Following a major ICH, 35% to 52% die within a month and only 20% who survive live independently after 6 months. The lack of proven and accepted medical or surgical treatment for ICH leads to great variation among physicians concerning both surgical and medical management.

The most important risk factor for ICH is poorly controlled chronic hypertension followed by bleeding diasthesis, thrombolysis for myocardial infarction and cortical thrombosis. The focal signs and symptoms accompanying ICH reflect the location of haemorrhage. Thalamic haemorrahges can result in contralateral sensory loss and weakness, while if they extend to or compress the superior midbrain; they may result in depressed signs. The onset can be deceptive, with initial nonspecific brainstem symptoms (e.g. vertigo or double vision) followed a few hours or even days later by progressive clinical features, including gait, trunk or limb ataxia, nystagmus, headache, vomiting.

Treatment aims to

1. Stop or reduce the bleeding in the initial few hours after the haemorrhage.
2. Removing blood from the parenchyma or ventricles.
3. Management of raised intracranial pressure and decreased cerebral perfusion.
4. Use of drug to reduce the effect of blood.
5. Adequate general supportive measures.[5]

Pakshaghata can be correlated with hemiplegia. Hemiplegia is a disease with paralysis of one side of the body. 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, Dnayanendriyas* and *Manas. Dnayanendriyas* are considered a part of the sensory system and *Karmendriyas* are considered a part of the motor system. The *Manas* is supposed to control and guide both, *Dnayanendriyas* and *Karmendriyas*. *Pakshaghata* is a *Vatavyadhi* of *Nanatmaja* variety.[6] *Vatavyadhi* can manifest either due to *Dhatukshaya* or *Margavarana*.[7] The cardinal features of *Pakshaghata* include *Chestahani* (impaired motor activity), *Ruja* (pain), *Vakstambha* (slurring of speech), and *Hasta Pada Sankocha*.[8] The classical signs of *Ardit* are aslo seen clinically in *Pakshwadh* like *Sandhi Bandhavimoksha* (weakness of joints) *Mukhavakratha* (mouth deviation), *Sphoorana of Jihva* (fasciculation of the tongue) may also be associated in some cases.[9]

Panchakarma is one of the important treatment modality of Ayurveda. *Panchakarma* literally means five procedures, *Vaman* (therapeutic emesis), *Virechan* (purgation), *AsthapanBasti* (enema using medicated decoction), *AnuvasanBasti* (enema using medicated oil) and *Shirovirechan/nasya* (nasal administration of medicines). Along with these five major procedures there are various other allied therapies like *Snehan* (oleation), swedan (fomentation) etc; are also collectively important to perform *Panchakarma* as a *Purva Karma* of *Panchakarma*. *Panchakarma* has no adverse effects if performed properly and it is very useful in treating neurological diseases, musculoskeletal disorders etc. By considering all the above facts the present case was performed to assess the efficacy of *Panchakarma* therapy on hemorrhagic stroke.

Case description

A 45 yr male patient came to our hospital (25\5\19) with complaints of left sided weakness, slurred speech, insomnia, altered sensorium, deviation of eyeball, Watering of eyes and inability to walk since 11 days. He was previously diagnosed case of cerebro-vascular accident with intraparenchymal bleed in right ganglio capsular region (GCS) with sub arachnoidal haemorrhage with raised intra cranial tension with left hemiplegia.

History

Patient had a sudden onset of nausea, 4-5 vomitings, weakness of left side and altered sensorium on 14th may 2019. He consulted to various allopathic consultants subsequently where he was diagnosed as chronic alcoholism with withdrawl seizures, uncontrolled HTN

and intracerebral hemorrhage for that he was treated accordingly with anti hypertensive, sedative, diuretics and other supportive medications. During this duration patient also develops slurred speech, insomnia, deviation of eyeball and inability to walk. From this hospital patient was referred to tertiary centre of Nagpur for neurosurgeon opinion there he was advised for taking treatment at GMC Nagpur and diagnosed as CVE with intraparenchymal bleed in Rt GCS with sub arachnoidal hemorrhage with raised intra cranial tension with left hemiplegia and treated accordingly from 20th – 24 th may 2019 but significant improvement was not seen.

After getting discharge from GMCH Nagpur, patient brought by relative to OPD of Government Ayurvedic college and Hospital and get admitted under *Kayachikitsa* department On 25th may 2019.

On the day of admission, the patient was in semiconscious state, drowsy and not responding to oral commands. His TPR are within normal limits, with decreased movements observed in the left limbs and unaffected right limbs.

Hematological and biochemical investigation reports were within normal limits. No past histories of head injury, hypertension or dyslipidemia were elicited.

Past history

H/O PR bleed, haemorrhoids and blood transfusion for correction of anaemia 1 ½ yr. ago

No P/H/O CVE, HTN, DM, Drug Allergy, Convulsion, Koch's, bronchial asthma, sickle cell anaemia,

Systemic examination

Respiratory system

CVS Examination

Per Abdomen Examination

All Findings are normal

Table no. 1: Table showing cranial examination in this patient.

Criteria	Right	Left
Pupillary reflexes size of pupil	Normal size	Normal size
Reaction to light	Sluggish	Sluggish
1.. TRICEPS	+++	++++
2. BICEPS	+++	++++
3. BRACHIO RADIALIS	+++	++++

4. SUPINATOR	+++	+++
5. KNEE	++	+++
6. ANKLE	++	+++
7. PLANTAR	Flexion	Extension
MPG Arm	5/5	3/5
Leg	5/5	4/5

Ashtavidha parikshan

1. ***Nadi:*** 82/min Regular
2. ***Mala:*** *Malavashtambha, Aniyamit malapravrutti*
3. ***Mutra:*** In situ foleys Catheterised
4. ***Jivha:*** *Sama*
5. ***Shabda:*** *Aspashta*
6. ***Sparsha:*** *Samshitoshna*
7. ***Drika:*** *Aspastha*
8. ***Aakriti:*** *Madhyam* Weight: 60 kg Height: 175 cm BMI-19.6

Vikrut strotas parikshan

1. *Udakvaha Strotas - Jivha Oshta Shosh, Pipasa*
2. *Annawaha Strotas - Anannabhilasha , Arochak*
3. *Rasvaha Strotas – Kshudhamandya, Ashradhha , Aruchi, Gauravata, Angamarda*
4. *Raktavaha Strotas – Raktapitta*
5. *Mansvaha Strotus - Sakashta Chankramana, Shaithilya*
6. *Majjavaha Strotas – Murchha*
7. *Purishvaha Strotas- Alpalpa, Malavshtambh*
8. *Manovaha Strotas – Alpa Nidra Dhi Smruti*

Investigations

1. CBC: Hb% - 14.6 gm. % ESR – 58 TLC- 7900 RBC- 4.02, Platelet- 508000
2. RBS: F -100 mg/dl PP-114 mg/dl
3. KFT: 27/05/2019 - Blood Urea -52.5 mg/dl, Sr. creatinine – 1.66 mg/dl, Uric acid - 7.7 mg/dl

   31/05/2019 - Blood Urea - 68.5 mg/dl, Sr. creatinine – 1.49 mg/dl, Uric acid - 8.3 mg/dl

   14/06/2019 - Blood Urea - 9.9 mg/dl, Sr. creatinine – 1.18 mg/dl, Uric acid - 6.9 mg/dl

4. LFT SGOT – 51.3U/L, SGPT - 47.7 U/L, Tot. Bil.- 0.65mg/dl, Dir.Bil. 0.28mg/dl, ALP – 73mg/dl
5. Lipid Profile: Triglyceride – 99.5, Cholesterol – 129, HDL – 53.2
6. Urine Report: A/B – Nil Sugar – Nil ME – NAD
7. Serum electrolyte – 29/05/19- Na^+ 133 mg/dl K^+3.4 mg/dl
   2/06/19- Na^+ 144 mg/dl
8. Prothrombine time (PT) – patient value 16 sec control value 13 sec
   INR -1.23

CT brain report

Intra parenchymal Hemorrhage in right gangliocapsular region with intraventricular extention and left ward subfalcine herniation

Subarchanoid haemorrhage in bilateral high parietal lobes

Acute lacunar infarct in left thalamus

Treatment

Initially *Dipana-Pachana* with *Shunthi & Amalaki Churna* done and for *Mrudu Virechan Aragwadh Phal Majja Churna* given. After getting *Niram Awastha Chandan Bala Lakshadi Taila* used for *Sarvanga Snehan*, followed by *Shirodhara* by *Medhya* and *Raktapittashamak Dravya Sidhha Kshir*. *Mahakalyanaka Ghrit Nasya*,and *Kalabasti* given. For *Tarpan Hriberadi Paniya*[10] used for two times a day and *Kharjuradi Manth* also given as patient is chronic alcoholic. *Medhya Dravya* such as *Bramhi, Yashtimadhu, Guduchi* are used with *Vasaghrit*. To Increase *Bala* of patient *Mansaras* is given with *shunthi, Jeerak* and *Priyangu* two times a day.

In *Kalabasti Kram, Vasadi Tail* containing *Raktapittashamak* drugs mentioned in *Raktapitta Chikitsa*[11] are used for *Anuvasan Basti* and for *Niruha Basti Raktapittashamak* drugs and *Jiwaniya Gan*[12] drugs *Kwath* with *Vasadi Ghrit* is used. After this classical *YogBasti Kram* is given with *Vacha,Yashtimadhu, Guduchi Kwath Sidhha Majja.*

Classical *Virechan Panchakarma* was given with *Abhayadi Modak* and For *Snehan Mahakalyanak Ghrit* is given in *Vardhaman Matra* and *Sansarjan Kram* is given for 5 days.After this *Mustadi Yapan Basti*[13] given for 15 days. After completion of treatment, the subject started walking with support initially, and then without support.

Table no. 2: Table showing NIH assessment scale in this case.

Sr. No	NIH Scale	Range of Score	Before treatment score on 26/05/2019	After treatment score on 07/08/2019
1a	Level of Consciousness	0 to 3	1	0
1b	LOC Questions	0 to 2	2	0
1c	LOC Commands	0 to 2	1	0
2	Best Gaze	0 to 2	2	0
3	Visual	0 to 3	1	0
4	Facial Palsy	0 to 3	3	1
5	Motor Arm	0 to 4	4	0
6	Motor Leg	0 to 4	4	0
7	Limb Ataxia	0 to 2	1	0
8	Sensory	0 to 2	0	0
9	Best language	0 to 3	1	0
10	Dysarthria	0 to 2	1	1
11	Extinction and inattention	0 to 2	1	0
	TOTAL	42	21	2

Maximum score is 42, signifying severe stroke; Minimum score is 0, a normal exam; Scores greater than 15-20 are more severe.

Table no. 3: Table showing the barthel index score assessment scale in this case.

Sr No	Field	Range of Score	Before treatment score on 26/05/2019	After treatment score on 07/08/2019
1	Feeding	0 to 10	0	05
2	Bathing	0 to 5	0	05
3	Grooming	0 to 5	0	05
4	Dressing	0 to 10	0	05
5	Bowels	0 to 10	0	10
6	Bladder	0 to 10	0	10
7	Toilet Use	0 to 10	0	10
8	Transfers (Bed to Chair And Back)	0 to 15	0	15
9	Mobility (On level Surface)	0 to 15	0	15
10	Stairs	0 to10	0	5
	TOTAL	100	0	85

Table no. 4: Table showing assessment of muscle power grade in this case.

Arm/Leg	Before treatment score on 26/05/2019	After treatment score on 07/08/2019
RT ARM	5/5	5/5
RT LEG	5/5	5/5
LT ARM	3/5	5/5
LT LEG	4/5	5/5

Table no 5: Table showing assessment of reflexes in this case.

	Before treatment score on 26/05/2019		After treatment score on 07/08/2019	
Criteria	**Right**	**Left**	**Right**	**Left**
Pupillary reflexes size of pupil	Normal size	Normal size	Normal size	Normal size
Reaction to light	Sluggish	Sluggish	Reacting to light Normally	Reacting to light Normally
1.. TRICEPS	+++	++++	+++	+++
2. BICEPS	+++	++++	+++	+++
3. BRACHIO RADIALIS	+++	++++	+++	+++
4. SUPINATOR	+++	+++	+++	+++
5. KNEE	++	+++	++	+++
6. ANKLE	++	+++	++	+++
7. PLANTAR	Flexion	Extension	Flexion	Flexion

Table no. 6: Assessment of GALS & WoMAC score in this patient.

Date	GALS	WOMAC Score
Before treatment score on 26/5/19	Patient is bed ridden. Left side body movements flaccid.	89.47%
After treatment score on 07/08/2019	Normal gait	5%

DISCUSSION

The principal used in the treatment is as per *Chikitsa* of *Urdhwag Raktapitta*[14] and *Pakshaghat*.[15] Considering the *Urdhwag Raktapitta* (*Raktastrava in Shir*[16]) the principle of treatment is *Virechan Chikitsa* and for *Pakshaghat* also *Virechan Chikitsa* is advised so for *Snehapan* for *Virechan Mahakalyanak Ghrit* is used. *Virechan chikitsa* cleans the *Strotasa* of the body, improves blood circulation, removes sluggishness of the body and is also *Balya*.

In *Kalabasti Kram, Vasadi Tail* containing *Raktapittashamak* drugs mentioned in *Raktapitta Chikitsa*[17] are used for *Anuvasan Basti* and for *Niruha Basti Raktapittashamak* drugs and *Jiwaniya Gan* drugs *Kwath* with *Vasadi Ghrit* is used. For *Tarpan* of *Strotas* and *Dhatu Bala Vardhan Mustadi Yapan Basti* given.

This case study demonstrates the successful management of a case of *Pakshaghata* using *Ayurvedic* treatment. While the scope for further research and clinical trials is enormous, it remains substantiated, that with proper diagnosis and selection of treatment protocol, Ayurveda can be enormously beneficial in the treatment of haemorrhagic stroke, or

Pakshaghata. It is said that the ideal drug, is one which can cure multiple diseases and presentations of disease. In this case, *Vasa* not only caused *Stambhan of Raktapitta* of the body, but also helped in due to its Ruksha, Pittashamaka, and Vranaropaka properties as *Vasa is Agrya* (Best Drug of choise) in *Raktapitta*[18] so *Vasadi Tail Anuvasan Basti*, along with *Chandan Bala Lakshadi Taila Abhyanga* was given to pacify *Vata ,Pitta* and *Rakta Dushti*. This increase strength and restore motor as well as sensory functions. In this case, *Virechan Panchakarma* Not only helpful to treat *Raktapitta* but also *Pakshghat this* helped in curing *Raktapitta Dushti* due to its *Raktapitta Shamaka* properties. This uncommon nature of the presentation, and complete recovery, this case was thought worth documenting.

After completion of treatment, the subject started walking with support initially, and then without support.

Such type of concept must be given to such patient, for benefit of management.

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