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Ayurvedic Therapeutic Application of Shodhana and Shamana Chikitsa in Pakshaghata (Haemorrhagic Stroke): A Case Study.

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Abstract:

Introduction: *Pakshaghata* is one among the *Vataja Nanatmaja Vikara* according to *Acharya Charaka while Acharya Sushruta categorises it under Mahavatavyadhi*. Due to indulgence in prolonged and excessive *Vatakara Ahara* and *Vihara*, *Vata* dosha gets vitiated and accumulates in *Rikta srotas* leading to *Pakshaghata*. The Classical *Lakshana* includes *Chesta nivrutti Vakstambha, Ruja, Akarmanya, Achetana, and Sandhi-Bandha Vimokshana*.

Pakshaghata can be interpreted as Cerebro-vascular accident or Stroke. It is the third major cause of morbidity and mortality in many developed countries. It can be ischemic or haemorrhagic. Haemorrhagic stroke is due to bleeding into the brain by the rupture of blood vessel. Haemorrhagic stroke contributes to 10 to 20% of strokes annually. The common sites of bleed are basal ganglia, cerebral lobes, thalamus, pons, brain stem and cerebellum. Depending on the site of bleed different clinical presentations manifest. Acute onset of headache, vomiting, neck stiffness, increase in blood pressure and other neurological signs are the common clinical manifestations of Haemorrhagic stroke.

Methodology: A 73year old male subject with complaints of weakness and reduced movements in (the) right side of the body, slurred speech, incontinence of bowel and bladder, drowsiness, tiredness and increased sweating since 1 ½ months with a history of irregular intake of Hypertensive and Diabetic medications, reported to Kayachikitsa OPD. On Clinical examination, the patient was conscious with mild impairment noted in orientation to time, place and person. Neurological assessment revealed a motor power of 4/5 in the right upper and lower limbs, altered muscle tone on right side of the body and pill rolling movements in the right fingers were present.

The case was diagnosed as *Pakshaghata (*Haemorrhagic Stroke) based on clinical parameters and was managed with *Dashamoola parisheka*, *Agnichikitsa lepa, Shirodhara, Shirobasti, Abhyanga, Matrabasti* and *Shamanaushadhi*. The assessment of the patient's condition was recorded and monitored before and after treatment using NIH-S and MMSE scales.

Result: After *Shodhana and Shamana* therapy, significant improvements were observed in the clinical signs and symptoms. The power of the right upper limbs improved, while hypertonicity reduced. The Grip

strength, finer finger movements and quality of speech improved. NIHSS Score reduced from 7 to 3. MMSE Score improved from 20 to 25.

Discussion: Considering the *Bala, Agni, Dosha and Roga avasta* of the subject, a therapeutic regimen comprising *Ama pachana, Deepana, Shamana, Shodhana, Balya, Bruhmana and Rasayana Chikitsa* was adopted.

Conclusion: In the present case study, treatment was planned according to *dosha and sthana dusthi* described by *Acharya Sushruta*. The outcomes were satisfactory and encouraging, leading to the improvement in the patient's quality of life.

Keywords: Pakshaghata, Haemorrhagic Stroke, NIHSS, MMSE, Shodhana, Shamana

Introduction

Pakshaghata is described by *Acharya Charaka*[1] *as one of the Vataja Nanatmaja Vikara* while *Acharya Sushruta* categorises it under *Mahavatavyadhi*[2]. Excessive and Prolonged indulgence in *Vatakara Ahara* and *Vihara*, leads to vitiation of *Vata* dosha which gets accumulated in *Rikta srotas* resulting in *Pakshaghata*[3]. The *Lakshana* include *Chesta nivrutti Vakstambha, Ruja, Akarmanya, Achetana, Sandhi-Bandha Vimokshana*[4]. *Pakshaghata* can be interpreted as Cerebro-vascular accident or Stroke based on the similarity in clinical features.

According to WHO, Stroke is defined as a neurological deficit of cerebrovascular cause that persists beyond 24hours or is interrupted by death within 24hours[5]. There are two main categories of stroke: Ischemic and Haemorrhagic Stroke. Ischemic Stroke is caused by a blood clot in an artery resulting in brain death in the affected area. Haemorrhagic Stroke is caused by blood leaking into or around the brain from a ruptured blood vessel, allows blood to pool in the affected area thus increasing the pressure on the brain. Stroke is the third major cause of morbidity and mortality in many developed countries. Haemorrhagic stroke contributes to 10 to 20% of all strokes annually[5].

Haemorrhagic stroke is further divided into Intracerebral haemorrhage (ICH) and Sub-arachnoid haemorrhage (SCH). ICH is bleeding into the brain parenchyma and SCH is bleeding into the Sub-arachnoid space. The common sites of haemorrhage include the basal ganglia (50%), cerebral lobes (10% to 20%), the thalamus (15%), pons and the brain stem (10% to 20%), and the cerebellum (10%). This results in hematoma which disrupts the neurons and glia. This in turn causes oligemia, neuro-transmitter release, mitochondrial dysfunction, and cellular swelling. Thrombin activates microglia and causes inflammation and oedema. The presentation of haemorrhagic stroke is usually acute and progressive. Loss of all sensory modalities is the characteristic feature of Thalamic haemorrhage[5]. Acute onset of headache, vomiting, neck stiffness, increased blood pressure and other neurological signs are the common clinical manifestations of Haemorrhagic stroke.

Presenting a case of 73year old male subject diagnosed with *Pakshaghata*, was treated with *Dashamoola parisheka*, *Agnichikitsa lepa, Shirodhara, Shirobasti, Abhyanga, Matrabasti*, and followed by *Shamana aushadhi*. Remarkable improvement in both subjective and objective parameters was observed after the treatment, along with enhancement in Quality of life.

Case Report

A 73year old male patient, known case of Hypertension for 24years and Type 2 Diabetes Mellitus for 20 years, with a history of irregular intake of medications presented with acute neurological symptoms. On

21st September 2023, he suddenly developed Loss of strength in his right lower limb and was unable to move his right lower limb while returning from the wash room. Thirty minutes later he gradually started experiencing Giddiness, Generalised weakness, Intensive headache, Sweating and Nausea.

As time progressed, symptoms got worsened and subject became drowsy, but arousable and responding to oral commands and was unable to get up from the bed. After 1 hour he started experiencing weakness in right upper limb and slurred speech. He was immediately taken to hospital and admitted in ICU. Based on CT brain findings revealed left thalamic hypertensive bleed with Hypertension. Emergency conservative management done with Inj.Mannitol, Inj Epitra, Inj Strocit and was hospitalised for 8 days. During hospitalization he developed incontinence of bowel and bladder. After this event, he became hyperactive and had episodes of irrelevant speech. After discharge, he had persisting complaints of weakness in right upper and lower limb, reduced movement on right side of body associated with slurred speech, unable to recall certain events of the past or terminologies and incontinence of bowel and bladder. On 29th September 2023, he approached SDMIAH for further management.

Personal History

The personal history revealed that he was a vegetarian with irregular food habits, often skipping meals. He had disturbed sleep, incontinence of bowel and bladder and stress due to business activities. Treatment history revealed that he was on these medications:

Tab. Syndopa 110 mg 1/2-0-1/2	Tab.Silodosin 8 mg 0-0-1 AF
Tab.Dutasteride 0.5 mg 0-0-1 at night	Tab.Urimax 0.4 mg 0-0-1 AF
Tab.Amlong 5 mg 1-0-1	Tab.Minipress XL 2.5 mg 0-1-0
Tab.Vildapride 50mg 1-0-1	Tab.Glimy 1 mg 1-1-0
Inj.Lanctus 0-0-14 units	Inj. Human Actropid as per scale

Blood Picture showed raised blood sugar levels and blood urea (FBS – 280 mg/dl, PPBS – 310mg/dl, HBA1C – 10.2%, Blood urea – 45.2mg/dl), reduced haemoglobin level (11.6gm%,). Impression in CT Brain showed that 19*15mm Acute hematoma seen in left thalamus, mild small vessel ischemic changes in bilateral periventricular white matter, Age related brain atrophy.

On General Examination: Gait: Could not able to walk, Build and nutritional status was good. Rest other parameters were Intact.

Vital Signs

Blood Pressure	**150/100 mmhg**
Pulse	82bpm
Temperature	98.6 F
Respiratory Rate	19/min
Height	160cm
Weight	68kg
BMI	25.8kg/m^2

Systemic examination revealed all systems to be normal except for changes in nervous system and Musculo-skeletal system.

Central Nervous System Examination

Higher Mental Function	Cranial Nerve Examination
▶ **Consciousness**: Conscious. ▶ **Orientation** to time, place, person: Impaired mildly ▶ **Attention**: Attentive, Eye contact+ ▶ **Memory**: Intact, occasional difficult to recall few technical words ▶ **Speech and language**: Dysarthria (Slurred speech) ▶ **Judgement and reasoning**: Normal ▶ **Mental state**: Anxious	▪ Trigeminal nerve: Jaw jerk – positive, clenching of teeth possible ▪ Facial nerve: Puffing of air – mildly affected over right side, forehead frowning- possible, equal in both sides ▪ Accessory nerve: Shrugging of Shoulder – unequal less resistance over right side ▪ Neck movement- possible against resistance ▪ Rest all Cranial Nerves – Intact

Therapeutic Intervention

Motor System Examination	Cerebellar Examination	Musculo-Skeletal Examination
Muscle tone – Hypertonic in right upper and lower limb Muscle power – 4/5 in right upper and lower limb 5/5 in left upper and lower limb Reflex – Exaggerated right biceps, supinator, knee, ankle	FINGER TO NOSE TEST – Affected over right limb FINGER TO FINGER TEST –Affected in Right upper limb HEEL TO SHIN TEST- Affected over Right lower limb Drawing circle in air –Mildly affected Pill rolling movement over right fingers affected	Gait - Patient is not able to walk Arms and Legs - **Loss of strength and reduced activity in right upper and lower limb** Reduction in range of motion.

Date	Treatment	Remarks
29/9/2023 - 1/10/2023	1. *Sarvanga DM Parisheka* 2. *Sarvanga Agnichikitsa Lepa* 3. *Shirodhara with Ksheerabala taila* Orally 1. *Brihat vata Chintamani rasa* 1tid A/f 2. Palsinuron tab 1 bd A/f	Weakness in Right lower and upper limb++ Slurred speech+ Bowel and bladder incontinence+ Incoherent speech+ Sleep - Disturbed GRBS monitoring and accordingly Insulin was administration was advised.

	3. *Dhanadanayanadi Kashaya* 20ml tid B/f	
2/10/2023 - 3/10/2023	1. *Sarvanga DM Parisheka* 2. *Sarvanga Agnichikitsa Lepa* 3. *Shirodhara with Ksheerabala taila* Orally 4. *Brihat vata Chintamani rasa* 1tid A/f 5. Palsinuron tab 1 bd A/f 6. *Dhanadanayanadi Kashaya* 20ml tid B/f	Power of right upper limb improved. Hypertonicity reduced. Subject is able to place hands on table, hold glass and takes tablet by own.
5/10/23 – 7/10/23	▪ *Sar. Abhyanga with Kottamchukkadi taila*. ▪ *Shrirobasti and Shirodhara with KB taila* on Alternate day ▪ *Matra basti with GH taila*- 30ml daily ▪ Physiotherapy **NOTE:** *Matra basti and Shirodhara* stopped after 7 days	*Matra basti* retention time:1st day 24 hrs. From 2nd day- 3-5hrs
9/10/23 - 15/10/23	*Continued with Sar. Abhyanga with Kottamchukkadi taila*.	Grip strength improved. Finer finger movements slightly improved, speech improved. Incoherent speech drastically reduced Sleep - Improved

Cognitive Assessment[6]

Mini Mental State Assessment	**Before Treatment**	**After Treatment**
Oriented to time	4	5
Oriented to place	4	5
Attention and calculation	3	4
Registration of 3 objects name	2	4
Recalling the objects name	3	3
Language Naming 2 random objects after showing objects	2	2
Repeat a Phrase	1	1
Follows 3 step command	1	1

Write a sentence	0	0
Follow a written instruction	0	0
Redraw a diagram	0	0
Total score	**20**	**25**

NIHS Stroke Scale[7]

Name	**Before Treatment**	**After Treatment**
LOC Questions	0	0
LOC Commands	0	0
Gaze	0	0
Visual fields	0	0
Left arm motor	0	0
Right arm motor	3	1
Left leg motor	0	0
Right leg motor	3	2
Sensory	0	0
Language	1	0
Neglect	0	0
Total	**7**	**3**

Outcome

Assessment was done using NIHS Stroke scale where score improved from 7 to 3 and Mini Mental Status Examination improved from 20 to 25. Post treatment, remarkable reduction was observed in symptoms like improvement in power of right upper limbs, reduction in hypertonicity, improved grip strength and finer finger movements as well as improved speech. Patient was symptomatically better, and quality of life improved.

Discussion

- In the present case, the involvement of *Vata samsrusta pitta* dosha was observed. Considering the *Agni, Ama, Avastha, Avarana, Dosha* and *Bala* of the *rogi*, *Chikitsa* such as *Sthanika Chikitsa*, *Basti Karma, Shamana aushadi* and Physiotherapy were adopted.
- *Sarvanga Dashamoola parisheka* was administered which acts as *ama hara and Vata hara*. *Sarvanga Agnichikitsa lepa* containing *ushna, tikshna, ruksha, katu, tikta, laghu guna dravyas* was deployed for its *Stambha hara, Amapachana, Vatakapaha hara*[8] properties.
- *Shirodhara and Shirobasti* were administered on alternate days with *Ksheerabala taila* which possess *Medhya, Dhatupushtikara, Indriyaprasadaka* and *Manaprasadaka*[9] qualities, contributing to promotion of good quality of sleep in the patient.
- *Sarvanga abhyanga* with *kottamchukkadi taila* was adopted, which exerts *vata kapha hara, lekhaniya, shophahara* properties and also exhibits anti-inflammatory and analgesic effects[10].
- *Matrabasti with Gandharvahastadi taila* was administered, which facilitates *Vata -anulomana* and *Mala shodhana* due to its Ushna *veerya, Madhura rasa, Madhura Vipaka, Sroto Shodhana* and *Shoola Prashamana* properties.[11]

- *Brihat Vata Chintamani rasa* acts as *Medya, Rasayana, Lekhaniya, Srotoshodhaka, Balya, Vakshuddikara, Dhatu Prasadaka, Ojovardhaka* and *Yogavahi*. It also helps to arrest neurodegenerative activity and exhibits significant anti-inflammatory action.[12]
- Palsineuron comprises *Mahavatavidvamsa Rasa*, *Sameera Pannaga Rasa*, *Ekanaga Veera Rasa*, *Soothashekara Rasa*, *Khurasani owa* and *Lajjalu*. It exerts neuroprotective, anti-inflammatory, muscle relaxant effects and also enhances cerebral circulation[13].
- *Dhandhanyanadi Kashaya* possess *laghu* and *ruskha guna, ushna virya, katu vipaka*, and acts as *vata-kapha shamaka.* It also exhibits *raktashodaka, shophahara* and *balya* properties.[14]
- Physiotherapy was given as an add on treatment helping in releasing the restricted range of movements of limbs.

Conclusion

- *Pakshaghata* is a *Vataja nanatmaja vyadhi* and is considered as *Mahavatavyadhi,* due to its severity.
- In this present study, the treatment was planned according to involved *dosha and sthana dusthi*, following the principles laid by *Acharya Sushruta*.
- The results were satisfactory and encouraging and reflected in symptomatic and functional improvement, along with enhanced quality of life.

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