



## AYURVEDIC MANAGEMENT OF STROKE WITH SPECIAL REFERENCE TO LEFT TEMPOROPARIETAL LOBE GLIOSIS: A CASE REPORT

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### ABSTRACT

Stroke is the leading cause of adult disability. Sixty percent of survivors have disabilities in arm or leg use and up to one third of stroke survivors need placement in a nursing home or assisted living environment. The prevalence of stroke in India ranges from 40 to 270 per 100 000 population. The present article deals with a diagnosed case of hemorrhagic stroke presented as right sided hemiplegia with left temporoparietal lobe gliosis. The Ayurvedic diagnosis of pakshaghata was made and udwartana, nasya and kala vasti procedures were done. Two assessments were taken before and after treatment on National Institute of Health Stroke Scale (NIH-SS) and Stroke Specific Quality of Life Scale (SS-QOL). On NIH-SS, maximum relief was noticed in items like, facial palsy, temporal hemianopia, aphasia, dysarthria and improvement in right lower extremity functions. On SS-QOL, maximum relief was noticed in items like, language, mobility and vision. Vasti karma plays a key role in the management of stroke / pakshaghata. The recovery was promising and worth documenting.

**Keywords:** Stroke, Hemiplegia, Left temporoparietal lobe, Gliosis, Pakshaghata, Vasti

### INTRODUCTION

Stroke is the leading cause of adult disability. Sixty percent of survivors have disabilities in arm or leg use and up to one third of stroke survivors need placement in a nursing home or assisted living environment<sup>1</sup>. The prevalence of stroke in India ranges from 40 to 270 per 100 000 population<sup>2</sup>. Stroke, sometimes referred to as a cerebro vascular accident (CVA), cerebro vascular insult (CVI) 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<sup>3</sup>. As a result, the affected area of the brain cannot function normally, which might result in an inability to move one or more limbs on one side of the body, failure to understand or formulate speech, or a vision impairment of one side of the visual field<sup>4</sup>. Gliosis is the universal response of the central nervous system to tissue injury and occurs as a result of many acute conditions such as trauma, ischemia, and stroke<sup>5</sup>. It involves some degree of hypertrophy or proliferation of glial cells, but the extent and nature of the gliosis response vary widely based on the triggering insult<sup>6</sup>. Stroke can be clearly correlated with the condition of Pakshaghata in Ayurveda, which is a kevala vata vyadhi and results because of vata kopa. It affects siraa's (vascular structures) and snayu's (tendons and ligaments) of one half of the body and face. Various Ayurvedic poly herbal formulations have been found to have therapeutic efficacy for treating pakshaghata/ stroke<sup>7</sup>. Even though cases of pakshaghata / stroke are common in Ayurvedic clinical practice and so many works have been done on this disease in Ayurveda, the present case of stroke is unique and worth mentioning as the patient suffering with post surgical complication after subdural hematoma repair. The patient had gliosis in left temporoparietal lobe, right sided hemiplegia with facial palsy and has been taking anti consultants. Written informed consent was obtained from the patient's father (patient was unable to do signature with right hand) for the publication of this case report.

### Case description

A 21 years aged male patient came to our care (08.09.2014), with the complaints of weakness of right side of the body

including face and unable to speak since 10.04.2013. Patient was a diagnosed case of 'Hemorrhagic stroke'. On 10.04.2013 morning, patient suddenly got severe headache and developed weakness of right upper and lower limb followed by speech impairment. He was admitted at allopathic hospital and undergone surgical intervention for evacuating subdural hematoma at left temporoparietal region. Immediately after few days of surgical intervention, patient got fever and shifted to another modern hospital. Patient got relief in fever and gets discharged from hospital. Since (05.07.2013), patient has been taking allopathic medicines and undergoing physiotherapy. The patient came to our care for Ayurvedic treatment to get functional recovery of right upper and lower limb and for speech difficulty. Hematological, biochemical investigation reports were within normal limits. No past history of head injury, diabetes, hypertension, cardiac pathology and any major medical illness found. No family history of stroke, diabetes, hypertension, dyslipidemia and cardio-vascular pathologies were found. At the time of examination patient's vital functions were normal and patient was conscious, oriented, responding to vocal commands but had slurred speech. Patient was able to walk with support. Facial palsy (flattened nasolabial fold, asymmetry on smiling), dysarthria (difficult and defective speech), aphasia (absence or impairment of the ability to communicate through speech) and right temporal hemianopia (blindness in lateral half of the visual field of right eye) were found. Tendon reflexes were exaggerated, muscle tone was increased and power was +2 in right upper and lower limb with positive babinski. Patient was non smoker, non alcoholic and not having allergy to any drug or food item.

### Diagnosis, Assessment and Treatment

Stroke was diagnosed by the history and clinical examination. MRI brain (05.07.2013) revealed evidence of craniotomy defect in left temporoparietal bone along with ill defined hypodensity in left temporoparietal lobe with gliosis suggestive of resolved hemorrhagic venous infarct. Left temporoparietal lobe gliosis with volume loss and dilatation of left lateral ventricle was also observed in MRI brain. Total

two assessments were carried out. First assessment was taken on the first day of starting treatment (09.09.2014) and second assessment was carried out at the time of discharge (29.09.2014). A criterion of assessment was based on the scorings of National Institute of Health Stroke Scale (NIH-SS)<sup>8</sup> and Stroke Specific Quality of Life Scale (SS-QOL)<sup>9</sup>. The patient was diagnosed as 'Pakshaghata (dakshina

parshwa)' according to Ayurveda. Initially udwartana and nasya karma was done for a period of one week. Later kala vasti protocol was followed. Patient was discharged (29.09.2014) and internal medicines were prescribed for the period of one month (Table 1). Patient came to follow up on 08.11.2014.

Table 1: Intervention

Duration	Medicine	Dose	Frequency
09.09.2014 to 29.09.2014	1. Kalyana avaleha choornam	3 g with honey	Thrice a day, after food
09.09.2014 to 15.09.2014	2. Dashamoola kwath + Erandamoola kwath	100 ml	Twice a day on empty stomach
<b>Panchakarma intervention</b>			
09.09.2014 to 15.09.2014	Udwartanam with Kola kuluthadi choornam		
	Nasya karma with Bala tailam		
16.09.2014 to 29.09.2014 (Kala vasti schedule)	1. Patra pottali pinda sweda with Prabhanjana vimardana kuzhampu		
	2. Bashpa sweda (in steam chamber)		
	3. Niruha vasti		
	A. Saindhava lavana - 6 g		
	B. Madhu - 100 ml		
C. Dhanwantaram tailam - 200 ml			
D. Satapushpa kalkam - 25 g			
E. Dashamoola kwatha - 500 ml			
F. Gomutra arka - 100 ml			
(or)			
4. Anuvasana vasti with Prasarini tailam - 100 ml			
<b>Medicines prescribed at the time of discharge</b>			
29.09.2014 to 28.10.2014	1. Ksheerabala 101 Avarti softgels - 2 capsules twice a day after food		
	2. Kalyana avaleha choornam - 3 g thrice a day after food with honey		
	3. Kottam chukkadi kuzhampu for external application all over the body		

## DISCUSSION

Pakshaghata can be correlated with hemiplegia. It is a vata vyadhi of nanatmaja variety according to charaka and maha vata vyadhi according to susruta. Vata dosha gets vitiated due to the indulgence of various diet and regimen and occupies the rikta srotas (vacant channels) in the body and produces pakshaghata<sup>10</sup>. Vasti and virechana were found to be beneficial in the management of pakshaghata. Nasya karma provides significant and quick improvement in facial paralysis<sup>11</sup>. Previous study reported, '77.6 % (P < 0.001) relief on NIH-SS and 63.49 % (P < 0.001) relief on SS-QOL' in stroke patients with integrated approach (treated by conventional modern medicine with Ayurveda and physiotherapy)<sup>12</sup>. The present case report deals with the efficacy of Ayurvedic treatment in long standing, treatment resistant right sided hemiplegia with left lobe temporoparietal gliosis. Patient has been taking anti convulsants before starting Ayurvedic treatment and those medicines were gradually tapered and stopped. Saama vata lakshana's<sup>13</sup> like, vibandha (constipation), agni saada (loss of digestive capacity) and aantra kujana (borborygmi), were present in the patient. Based on these features treatment was aimed for ama pachana purpose initially and rookshana procedure like udwartanam with kola kuluthadi choornam was selected. Along with udwartanam, nasya karma with bala tailam was done to tackle aridita vata (facial palsy). Kalyana avaleha choornam, dashamoola kwath and eranda kwath were prescribed to improve speech and to pacify vata dosha. After seven days of udwartana and nasya, patient felt lightness in body, increase in appetite and improvement in speech. After attaining niraamavastha by udwartana, snehana and swedana by patra pottali pinda sweda was started by using prabhanjana vimardana kuzhampu. Along with patra pottali pinda sweda and bashpa sweda, kala vasti (schedule of fifteen vasti's) was followed. Kala vasti schedule contains fifteen vasti's (nine

anuvasana vasti's and six niruha vasti's). Kala vasti schedule starts with anuvasana vasti followed by twelve vasti's (six niruha vasti's and six anuvasana vasti's alternatively) and ends with two anuvasana vasti's. At the time of discharge patient was happy as she was able to walk, stand and do her regular activities without pain and support. At the time of discharge (29.09.2014), Ksheerabala 101 avarti softgels were prescribed as shamana along with other internal medicines (Table 1). During follow up on 08.11.2014, patient reported relief in rigidity in right upper limb and he was able to climb the stairs without support. On NIH SS, maximum relief was noticed in items like, facial palsy, temporal hemianopia, aphasia, dysarthria and improvement in right lower extremity functions. On SS-QOL, maximum relief was noticed in items like, language, mobility and vision. Slight improvement was observed in right upper extremity but fine movements were not achieved. Patient was able to climb the stairs without support at the time of discharge. The treatment protocol followed in the present case was unique. The recovery was promising and worth documenting.

## CONCLUSION

Udwartana like rookshana procedures are helpful to bring niraamavastha from saamavastha in pakshaghata patients. Kala vasti seems to be beneficial in the management of chronic or long standing cases of stroke / pakshaghata. By panchakarma therapy along with internal medicines relief can be obtained on NIH-SS and SS-QOL in stroke patients. The recovery in the present case was promising and worth documenting.

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REFERENCES

1. Thomas Carmichael S. Cellular and molecular mechanisms of neural repair after stroke: making waves. *Annals of Neurology* 2006; 59: 735. <http://dx.doi.org/10.1002/ana.20845>
2. Pandian JD, Jaison A, Deepak SS, Kalra G, Shamsher S, Lincoln DJ *et al*. Public Awareness of Warning Symptoms, Risk Factors, and Treatment of Stroke in Northwest India. *Stroke* 2005; 36: 644-648. <http://dx.doi.org/10.1161/01.STR.0000154876.08468.a0>
3. Sims NR, Muyderman H. Mitochondria, oxidative metabolism and cell death in stroke. *Biochimica et Biophysica Acta* 2009; 1802: 80-91.
4. Donnan GA, Fisher M, Macleod M, Davis SM. Stroke, *Lancet* 2008; 371: 1612-23. [http://dx.doi.org/10.1016/S0140-6736\(08\)60694-7](http://dx.doi.org/10.1016/S0140-6736(08)60694-7)
5. Mc Millian, Michael K, Linda Thai, JS Hong, James P, O'Callaghan, Keith R Pennypacker. Brain injury in a dish: a model for reactive gliosis. *Trends in Neurosciences* 1994; 17: 138-142. [http://dx.doi.org/10.1016/0166-2236\(94\)90086-8](http://dx.doi.org/10.1016/0166-2236(94)90086-8)
6. Hamby ME and Sofroniew MV. Reactive astrocytes as therapeutic targets for CNS disorders. *Neurotherapeutics* 2010; 7: 494-506. <http://dx.doi.org/10.1016/j.nurt.2010.07.003>
7. Hariharan S, Prasanna Kumar TM, Gobinath N. Hemiplegia – An Ayurvedic perspective. *Anc Sci Life* 2012; 32: S62. <http://dx.doi.org/10.4103/0257-7941.112040>
8. Brott T, Adams HP Jr, Olinger CP, Marler JR, Barsan WG, Biller J, *et al*. Measurement of acute cerebral infarction: A clinical examination scale. *Stroke* 1989; 20: 864-870. <http://dx.doi.org/10.1161/01.STR.20.7.864>
9. Williams LS, Weinberger M, Harris LE, Clark DO and Biller J. Development of a stroke specific quality of life scale. *Stroke* 1999; 30: 1362-1369. <http://dx.doi.org/10.1161/01.STR.30.7.1362>
10. Ediriweera ERHSS, Perera MSS. Clinical study on the efficacy of Chandra kalka with mahadalu anupana in the management of pakshaghata (Hemiplegia). *AYU (An International Quarterly Journal of Research in Ayurveda)* 2011; 32: 25-29. <http://dx.doi.org/10.4103/0974-8520.85720>
11. Kajaria Divya, Tripathi JS, Tiwari SK. Utilization of panchakarma in health care: Preventive, nutritive and curative treatment of disease. *J Pharm Sci Innov* 2013; 2: 1-5. <http://dx.doi.org/10.7897/2277-4572.02564>
12. Prasad Mamidi, Kshama Gupta. Role of stroke unit care in the management of stroke: An observational case series. *Int. J. Res. Ayurveda Pharm* 2014; 5: 252-255. <http://dx.doi.org/10.7897/2277-4343.05351>
13. Vagbhata, Ashtanga hridaya, Sutra sthana, Doshadi vigyaneeeyam adhyaya, 13/26-28, edited by Shiv Prasad Sharma. Varanasi: Chaukhamba sanskrit series office; 2008. p. 149.

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