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SUCCESSFUL MANAGEMENT OF HEMIPLEGIA WITH SUPPORTIVE AYURVEDIC TREATMENT- A CASE STUDY

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ABSTRACT

Pakshaghata is *Vatavyadhi* [1] which can be correlated to cerebrovascular condition called stroke. *Ayurvedic* literature has references of treatment of *Pakshaghata*. Prognosis depend on various factors like *Vaya* (Age), *Bala*(strength), *Dosha*, etc. The management of *Pakshaghata* being reported in this paper is a case of ischemic stroke. A 52 year old male patient known case of hypertension came with symptoms of right sided weakness, slurred speech and inability to stand or walk. The clinical impression for the patient was right sided hemiplegia. He was on various treatment methods but did not get relief to perform his necessary daily activities. So he came to D Y Patil *Ayurvedic* Hospital Navi Mumbai. In *Ayurveda*, treatment of disease is done in two parts *Samshodhan* and *Sanshaman*. The patient was effectively treated with *Panchakarma* procedures, *Shaman Aushadi* and physiotherapy along with his ongoing modern treatment and the patient was cured 85%.

Keywords: *Pakshaghata*, Hemiplegia, Stroke, Cerebrovascular accident, Effective Ayurvedic treatment

INTRODUCTION

A stroke is characterized by the rapid appearance (usually over minutes) of a focal deficit of brain function, most commonly a hemiplegia with or without signs of focal higher cerebral dysfunction (such as aphasia), hemisensory loss, visual field defect or brain-stem deficit [2]. This can cause brain damage, long term disability or even death. Of patients presenting with a stroke, 85% will have sustained a cerebral infarction due to adequate blood flow to part of the brain. The remainder will have had an intracerebral haemorrhage. Brain imaging is required to distinguish these pathologies and to guide management [3]. Weakness down one side of the body is almost always due to a cerebral hemisphere lesion, although it can be caused by spinal cord or brain stem lesions [4]. Hemiplegia is loss of strength of arm, leg and sometimes face on one side of the body. It refers to severe or complete loss of strength. Globally at least 5 million people die from strokes. Stroke is a common medical emergency with an annual Incidence of between 180 and 300 per 100000. 16.9 million suffer stroke each year. About one fifth of the patients with acute stroke die within the month of the event and atleast half of those who survive are left with physical disability [5]. Stroke is the third most common cause of

death in the developed world after cancer and ischemic heart disease [6].

Case study-

UHID- 227296

A 52 year old male patient, driver by occupation was leading a normal life 12 years ago then he suffered CVA stroke subsequently he felt right sided weakness and was unable to walk and move his right hand and right leg .He had slurred speech and also lost his bladder control. Thereafter he was on several medications but he discontinued it for some time on his own therefore due to irregularity of necessary treatment he faced 2nd stroke on 7/10/21.This patient is a known case of hypertension since 12 years and is on treatment-

Tablet Telma 40mg 1 tablet once daily after breakfast

Tablet Dabigatran 110mg 1 tablet twice daily after lunch and after dinner

Tablet Ecosprin 150mg 1 tablet daily at bedtime

Tablet Atorvastatin 40mg 1 tablet daily at bedtime.

(These drugs were continued in the overall treatment)

The patient was on various treatment methods but did not get desirable improvement. He came to D Y Patil *Ayurvedic* Hospital and was

treated with *Shamana Aushadhis* (internal medicines) and *Panchakarma* with proper counselling.

Addiction-smoking, alcohol

RR-20/min

P-68/min

BP-140/90mmhg

Wt-78kg

Diet-Mixed

History of food/drug allergy-No food/drug allergy

On Examination-

Temp-Afebrile

GC-Fair

SPO2-98%

Ht-5.6 feet

RS-AEBE clear

CVS-S1 S2 normal

CNS-left sided weakness

Aaturbala Pramana Pariksha

1	<i>Prakruti</i> (constitution of person)	<i>Vatapradhan Pitta, Rajas</i>
2	<i>Sara</i> (quality of tissue)	<i>Madhyam</i> (average)
3	<i>Samhanana</i> (body builtup)	<i>Madhyam</i>
4	<i>Pramana</i> (antropometric measurement)	<i>Madhyam</i>
5	<i>Satmya</i> (adaptability)	<i>Madhyam</i>
6	<i>Satva</i> (mental strength)	<i>Heen</i>
7	<i>Aaharshakti</i> (food intake and digestion capacity)	<i>Madhyam</i>
8	<i>Vyayamshakti</i> (exercise capacity)	<i>Heen</i>
9	<i>Vaya</i> (age)	<i>Praudhavastha</i>
10	<i>Desha</i> (habitat)	<i>Anup</i>

Ashtavidha Pariksha (Eight-fold examination)

1	<i>Nadi</i> (pulse)	76/min
2	<i>Mutra</i> (urine)	<i>Samyak</i> , urine incontinence
3	<i>Mala</i> (stool)	<i>Samyak</i>
4	<i>Jivha</i> (tongue)	<i>Saam</i>
5	<i>Shabda</i> (sound)	<i>Aspashta</i> , slurred
6	<i>Sparsha</i> (touch)	<i>Anushna</i>
7	<i>Drik</i> (eye)	<i>Spashta</i>
8	<i>Aakriti</i> (built)	<i>Madhyam</i>

Factors involved in Samprapti of Pakshaghata [7] -

- Doshas: Vata (All five types; Prana, Udana ,Apan Vayu especially) :
- Pitta (Panchak Pitta, Ranjak Pitta especially):
- Kapha (Shleshak and Avalambaka Kapha especially)
- Dushyas: Rasa, Rakta, Mamsa, Meda, Asthi, Majja Dhatu and Manas
- Agni: Jatharaagni, Dhatvaagni
- Ama : Dhatwaagni-Maandya-Janya
- Strotasa: Rasavaha, Raktavaha, Mamsavaha, and Medavaha
- Strotodushti: Atipravrutti, Sanga, Siraagranthi & Vimaarga Gamana
- Udbhava Sthana: Pakwaashaya

- Sanchara Sthana: Urdhwa, Adhah, Tiryak Dhamanis
 - Adhithana: Shira
 - Rogamarga: Madhyam Roga marga
 - Vyakti Sthan: Either Dakshin or Vama
- Muscle power grading**-Power grade before and after treatment

	Left (BT) (AT)	Right (BT)	Right (AT)
Upper limb	5/5	1	4
Lower limb	5/5	1	4

Reflexes-The National Institute of Neurological Disorders and Stroke (NINDS) Muscle Stretch Reflex Scale is frequently used and empirically supported.

NINDS Scale [8]:

- 0: Reflex absent
- 1: Reflex small, less than normal; includes a trace response or a response brought out only with reinforcement

- 2: Reflex in the lower half of the normal range
- 3: Reflex in the upper half of the normal range
- 4: Reflex enhanced, more than normal; includes clonus if present, which optionally can be noted in an added verbal description of the reflex.

Reflexes grade before and after treatment

	Left (BT) (AT)	Right (BT)	Right (AT)
Biceps	2	1	2
Triceps	2	1	2
Supinator	2	1	2
Knee jerk	2	1	2
Ankle jerk	2	1	2
Babinski sign	negative	positive	negative

Investigations –

1. MRI Brain (7/10/2022)-Acute non-haemorrhagic infarction involving B/L parafalcine fronto parietal lobes cystic encephalomalacia with peripheral haemoside involving left fronto temporo parietal lobes.Mild atropy of left cerebral peduncle.

2. Echocardiography(20/08/21)-LV diastolic dysfunction
3. Laboratory-(25/08/22)
 - Hb-13.0mg/dl
 - Platelet count-3.10lakh/cumm
 - ESR-15mm/hr
 - Lipid Profile-Total cholesterol-238mg/dl
 - Total Triglyceride-175mg/dl

HDL-45mg/dl

LDL-158mg/dl

Total cholesterol/HDL ratio-5:2

Serum creatinine-1.0mg/dl

Blood urea-23.0mg/dl

4. Urine routine-

Pus cells-1-2/hpf

Epithelial cells-1-2/hpf

Diagnosis-On the basis of clinical presentation and brain MRI it was diagnosed as *Dakshin Pakshaghata*/right sided paralysis.

Aim and objective- A case study on management of right sided hemiplegia with ayurvedic treatment.

MATERIALS AND METHODS-

❖ **Panchakarma procedure-**

- *Sarvang Snehan* with *Mahanarayan* oil
- *Sarvang Swedan* with *Dashmool Bharad Kwath*
- *Nasya* with *Panchendriya vardhan* oil
- *Udvartan* with *Vacha churna* on affected parts once in a day
- *Gandush* with *Til+Mahanarayan* oil+*Koshna Jal* +*Saindhav* (mixture of 200ml)
- *Jivha pratisaran* with *Vacha* (1gm)+*Akarakarabh churna*(1gm) along with honey two times a day.
- *Matra Basti* with *Til*(25ml)+*mahanarayan* oil(25ml)

- *Shirodhara* with *Til* oil for half hour

❖ **Abhyantar aushadi chikitsa-** (given in different phases)

- *Mahayograj guggul* 160mg 2 tablet 3 times a day after food with warm water
- *Ashwagandha churna tikdi* 250mg 2 tablet 3 times a day after food with warm water
- *Gandharva haritiki churna* 4 gm at bedtime
- *Cap Palsineuron* 1 capsule 3 times a day
- *Ekangavir ras* 1 tablet 2 times a day after food with warm water
- *Gokshuradi guggul* 280mg 2 tablet 3 times a day after food with warm water
- *Raupya Bhasma*(60mg)+*Ashwagandha*(2gm) +*Bilva churna*(2gm)

I. **Phase 1-(1 to 22 days)**

- ✓ *Ashwagandha churna tikadi* 250mg 2 tablet 3 times a day after food with warm water
- ✓ *Ekangavir ras* 1 tablet 2 times a day after food with warm water
- ✓ *Raupya Bhasma*(60mg)+*Ashwagandha*(2gm) +*Bilva churna*(2gm)
- ✓ *Sarvang Snehan* with *Mahanarayan* oil

- ✓ *Sarvang Swedan* with *Dashmool Bharad Kwath*
- ✓ *Gandush* with *Til+Mahanarayan oil+Koshna Jal +Saindhav* (mixture of 200ml)
- ✓ *Jivha pratisaran* with *Vacha(1gm)+Akarakarabh churna(1gm)*
- ✓ *Matra Basti* with *Til (25ml) +mahanarayan oil (25ml)*

II. Phase 2-(31 to 53 day)

- ✓ *Ashwagandha churna tikadi* 250mg 2 tablet 3 times a day after food with warm water
- ✓ *Gandharva Haritaki churna* 4 gm at bedtime
- ✓ *Mahayograj guggul* 160mg 2 tablet 3 times a day after food with warm water
- ✓ *Sarvang Snehan* with *Mahanarayan oil*
- ✓ *Sarvang Swedan* with *Dashmool Bharad Kwath*
- ✓ *Nasya* with *Panchendriya vardhan oil*
- ✓ *Udvartan* with *Vacha churna* on affected parts

- ✓ *Matra Basti* with *Til(25ml)+mahanarayan oil(25ml)*

III. Phase 3-(62-90 day)

- ✓ *Gokshuradi guggul* 280mg 2 tablet 3 times a day after food with warm water
- ✓ *Cap Palsineuron* 1 capsule 3 times a day
- ✓ *Ashwaganda churna tikadi* 250mg 2 tablet 3 times a day after food with warm water
- ✓ *Sarvang Snehan* with *Mahanarayan oil*
- ✓ *Sarvang Swedan* with *Dashmool Bharad Kwath*
- ✓ *Shirodhara* with *Til oil* for half hour

Medication prescribed on discharge-

Ashwagandha churna tikadi 250mg 2 tablet 3 times a day after food with warm water
 Capsule *Palsineuron* 1 capsule 3 times a day after food

National Institute of Health Stoke Scale (NIH-SS) [9]

A formalized neurological examination and a measure of stroke severity which can be useful for organizing acute stroke assessment, monitoring and communicating severity.

Score	NIH Scale	Range of score	BT	AT
1-a	Level of consciousness	0 =Alert; keenly responsive 1=Arouses to minor stimulation 2=Arouses to pain 3=Abnormal postures or unresponsive	0	0
1-b	Ask month and age	0=Both questions right 1=One question right or dysarthric or intubated 2=No questions right or aphasic	1	0

1-c	Ask to 'close eyes' and 'squeeze hands'	0=Performs both tasks 1=Performs one task 2=Performs no tasks	1	0
2	Horizontal extraocular movements	0=Normal 1=Partial gaze palsy:can be overcome or corrects 2=Complete gaze palsy:cannot be overcome	0	0
3	Visual fields	0=No visual loss 1=Partial hemianopia 2=Complete hemianopia 3=Bilateral blindness or hemianopia	0	0
4	Facial palsy	0=Normal symmetry 1=Minor paralysis (flat nasolabial fold) 2=Partial paralysis (lower face only) 3=Unilateral or bilateral complete paralysis	1	0
5A	Left arm motor drift (ask patient to hold out arm for 10 seconds while you count aloud)	0=No drift for 10 seconds 1=Drift,but dosen't hit bed 2=Drift and hits bed,or some efforts against gravity 3=No effort against gravity 4=No movement	0	0
5B	Right arm motor drift	0=No drift for 10 seconds 1=Drift,but dosen't hit bed 2=Drift and hits bed,or some efforts against gravity 3=No effort against gravity 4=No movement	4	0
6A	Left leg motor drift(ask patient to raise leg for 5 seconds while you count aloud)	0=No drift for 10 seconds 1=Drift,but dosen't hit bed 2=Drift and hits bed,or some efforts against gravity 3=No effort against gravity 4=No movement	0	0
6B	Right leg motor drift	0=No drift for 10 seconds 1=Drift,but dosen't hit bed 2=Drift and hits bed,or some efforts against gravity 3=No effort against gravity 4=No movement	4	0
7	Limb ataxia (finger-nose-finger and heel-shin testing,all four limbs)	0=No ataxia or dosen't understand or paralysed 1=Ataxia in one limb 2=Ataxia in two limbs	1	0
8	Sensation	0=Normal,no sensory loss 1=Mild-Moderate sensory loss 2=Complete sensory loss or unresponsive	1	0
9	Language	0=Normal,no dysphasia 1=Mild-Moderate dysphasia but no major limitation 2=Severe dysphasia,e.g meaning of speech is unclear 3=Global aphasia or mute or coma	1	1
10	Dysarthria	0=Normal or intubated and unable to test	1	1

		1=Mild-Moderate,e.g slurring but understandable 2=Severe,unintelligible or mute		
11	Inattention (formerly neglected)	1=Inattention to one modality (sense or vision) 2=Inattention to both modalities or severe neglect (e.g dosen't recognize own hand)	0	0
	Total	42	15	2

Score (0 to 42):

0 to 5 mild stroke, 5 to 15 moderate stroke, more than 16 severe stroke.

Barthel Index [10]

	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	0	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	5
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	5	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	0	10
10	Stairs	0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	0	5
	Total	100	10	75

The 100-point version is illustrated. If a person is completely unable to perform a

task, the score is 0. The total score reflects the degree of dependency.

RESULTS-

Before treatment	After treatment
Right sided weakness	75% relief in weakness
Unable to speak	Speech spoken can be understood
Unable to stand and walk	Able to stand and walk with support
Unable to do daily activities (Barthel index score10)	Able to do daily activities independently (Barthel index score75)
Lost bladder control	Control over bladder
Feeling depressed, loss of anger control	Emotionally stable
Muscle power Grade 1-Flicker of contraction	Grade 4-Active movement against gravity and resistance

Mode of action of drugs given:

- Mahayograj guggul [11]
It is *tridosha*, *balya* and *rasayan*.
- Ashwagandha churna tikadi:
Ashwagandha acts as *rasayan*, *balya*, *bruhan* increasing *rasa*, *mamsa* and *shukra dhatus*. It also has *madhur* and *snigdha guna* which helps in *bruhan karma* and it is *Dhatu-Agni Deepak* and *Dhatu poshak* due to *tikta rasa*. It is also called as *somnifera* as it acts as *Mastishka shamak* hence used in insomnia. (pg 446)
- Gandharva haritaki: *Gandharva* acts as *vatanulom* due to is *ushna*, *snigdha*, *guru*, *sara guna*. It acts as *vata shamak*, *balya*, *vednasthapak*, *medhya* and *angamarda prashaman* therefore used in *pakshaghata*. It eliminates all the three *rogas* after *virechan* hence used in *pakvashaya roga*, *bastiroga*. 539)
- Capsule Palsineruron- It contains herbal-mineral ingredients improving metabolic functioning in the CNS and PNS. It is used in the management of paralysis and helps to treat neuromuscular disorders of the CNS (central nervous system). It is also effective in hemiplegia, nerve injury, and degenerative changes. It activates neuro-muscular communication, improves tissue oxidation and regulates blood supply in related areas. It promotes healing of damaged nerves and blood vessels, provides nutritional support for faster healing of damaged tissues and regenerates neuro-tissues and checks neuro-irritation.
- Ekangavir ras – In *Pakshaghata* there is vitiation of *Vata* and *Kapha Dosh*. In the treatment of *Pakshaghata* it is essential to pacify these vitiated *Doshas*. *Ekangveer Ras* has ability to

pacifying vitiated *Vata Doshas* due to its *Madhura Rasa, SnigdhaGuna, Ushna Veerya* and *MadhuraVipaka*. Vitiated *Kapha Dosha* is pacified by *Tikta, Katu, Kashaya Rasa, Laghu Guna, Ruksha Guna, Ushna Veerya* and *Katu Vipaka*.

- *Gokshuradi guggul* –It is *rasayana* for *mutravaha srotas*. It helps in proper function of the genitourinary tract, strengthens and tones the kidney, it has properties for mitigation of *kapha* and *vata*.
- *Bilva churna*: It acts as *shothahara* and *vedanasthapan* therefore it is used in *vatavyadhi, akshepak, insomnia*. (489)
- *Nasya* It is used in various upper body diseases. The olfactory epithelium is a gateway for substances entering the central nervous system (CNS) and the peripheral circulation. According to modern science, the olfactory area is a place in the human body where there is direct contact between the outer surface and central nervous system. Also according to *Ayurveda Nasya* acts mainly on *Shira* i.e., Central Nervous System and upper part of the body especially Head, Neck, Face, Ears, ENT, Shoulders etc.
- *Udhvartan* [12]-*Udwartana* is *vataghana* used in *kapha meda vilayana chikitsa*. It helps in removing the *strotosang* and *strotorodha* improving the circulation in spastic muscles, removing stagnant *dosha* from *shakha*, improving dystonia.
- *Gandush* It strengthens the voice (*swarabalam*) by supporting and promoting the vocal chords. It lubricates, reduces toxic load and purifies the vocal chords. It strengthens the jaws or mandible (*hanurbalam*) by lubricating it.
- *Jivha pratisaran* –*Akarakarabh* [13]: It is *Tivra uttejak* and *ati-teekshna* due to which it is used in *Pakshaghata* and due to is *Kanthya guna* it is used in *Swarabheda*. *Vacha*: It has *ushna virya* which activates role of *sadhakpitta* and increases brain grasping and memory. Due to its *tikta rasa* and *ushna virya* it causes *majja agni deepan*. It causes *majja poshan sarbhag pachan* and *majja mala shodhan* leading to *medhya karma*. (pg 788)
- *Matra basti*-*Basti* is considered as *ardha chikitsa* of *Vata dosha*.
- *Shirodhara* -Continuing dripping of oil on forehead exert the pressure

which has impulse conduction through tactile and thermo receptors, due to prolonged pressure impulse conduction may interrupt and body may go to rest which causes tranquillizer effect on mind. The procedure may activate the function of thalamus and basal fore brain which bring the amount of serotonin at normal stage inducing sleep. Helps in insomnia, psychological disorders. Skin are having nerve endings. They are spread widely in superficial skin, tissue which are having abundantly pain receptors like bradykinin, serotonin, histamine, potassium ions acetylcholine. These are known to get stimulated by mechanical thermal and chemical stimuli. It acts as mechanical and thermal stimuli and regulate the pain.

- Swedana-Swedana [14] decreases vata and acts as kapha hara by opening channels thereby improving circulation in stiff muscles. It acts as *stambhaghna, gauravaghna, sheetaghna*. Its *Ushna* and *tikshna guna* helps in dilation of micro channels, *laghu* and *sara guna* of *swedana dravya* enable *dosha* to move towards *kostha*. The *doshas* in the

form of sweat get excreted through micropores decreasing *strotorodha Dashmool* [15] is *tridosha nashaka* and *ushna* in *virya*; hence it helps in pacification of *vata vyadhi*.

- Abhyanga-According to *Charka Vayu* dominates *sparshaendriya* hence *abhyanga* is extremely beneficial for *vata vyadhi*. It has *vatapitta hara guna, madhura vipaka, snigdha* and *pichila guna* which is opposite to *vaat*, hence through *vishesh* principle it helps in pacifying *dosha* [16]. It makes the joint strong by nourishing the superficial and deep muscle tissue. Skin is one of the sense organs and sites of *Vata dosha*. Thus local message directly treats the *Vata Dosha*.
- Raupya bhasma –Effective taste of silver is sweet. It tastes astringent and sour and has cold attribute. It stimulates bowel motions. It is unctuous and conquers over disorders of *Vata* and *Kapha* humors. It fires up the digestive power of stomach and being such, it is used to gain power, prevent old age and stimulates intelligence [17].

DISCUSSION-

On the basis of results observed in this case, the patient took *Ayurvedic* treatment timely and got tremendous benefits after a total treatment of 90 days it provided effective relief in chief complaints with improvement of overall health of the patient. Gradually improvement was seen in incontinence of urine. Dysphagia and dysarthria were reduced and he was able to stand and walk with support. Eventually patient was able to do daily routine (bathing, standing, walking by himself with minimal support). He got control over his depression and mood swings. Hence it can be substantiated that *Panchakarma* treatment is effective in treatment of *Pakshaghata*, however it should be repeated after proper intervals to get better and permanent results. It has big scope of future research; a study with large sample size can be done to bring out a treatment protocol of *Pakshaghata*.

CONCLUSION-

With allopathic medicine like anti-hypertensive and anti-coagulants the patient was still bed-ridden and there was no progression in health. *Ayurveda* helped to build up physical and mental strength improving emotional and social life of the patient and his quality of life improved. There is a need to prevent and treat CVA through

Ayurveda and know the importance of it in its successful management.

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