



# MANAGEMENT OF PAKSHAGHATA-A SINGLE CASE STUDY

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## Abstract

Vata is one of the tridoshas, is the controller, regulator and its vitiation is the cause for many diseases. In Ayurveda pakshaghata has been explained in vatavyadhi. The term pakshaghata is the combination of two words paksha and ghata, where paksha denotes either half of the body and aghata denotes paralysis. The term Pakshaghata can be correlated with hemiplegia. Stroke is one of the commonest cause of hemiplegia. A diagnosed case of right hemiplegia, 60 years old male patient came to our opd, with chief complaints of balakshaya and karmahani of right upper and lower limb of the body, Vak kricchrata, suptata of right side of body, anushnasheetajwara. The ayurvedic diagnosis of dakshina pakshaghata was made, and treated with virechana, sarvanga abyanga and matra basti and shamana rasayana as ekangaveera rasa, malla sindhoora with arjuna, yashti,twak,vacha churna, rasna saptaka kashaya and balarista was given. It showed significant improvement in gradation of power & function. In this single case study, an attempt is made to study the combined efficacy of virechana,sarvanga abyanga and matra basti and shamana rasayana in the management of pakshaghata with special reference to Right Hemiplegia.

**Key words-** Hemiplagia, Mahasneha, Ekangaveera rasa, Malla sindhoora

## Introduction

Pakshaghata is one of vataja nanatmaja vyadhi and considered under ashtamahagada and swabhavatah duschikitsya. Pakshaghata can appear as a result of either margavarana or dhatu kshaya or margavarana leading to dhatukshaya.<sup>1</sup> The clinical symptoms are karma kshaya and bala hani over one paksha, and some are Hasta Pada Sankocha, Ruja (pain), Vakstambha (slurred speech), and Chestahani (impaired motor activity). Some instances may also involve Sandhi Bandhavimoksha (joint weakness), Vaktravakratha (mouth deviation), and Sphoorana of Jihva (fasciculation of the tongue).

Pakshaghata can be correlated with hemiplegia/hemiparesis. It can affect either left or right side of the body. Symptoms of hemiplegia can include muscle weakness or stiffness on one side muscle spasticity or permanently contracted muscle, poor balance, trouble grabbing objects. Causes of hemiplegia is either vascular-cerebral hemorrhage, stroke, infective, neoplastic or traumatic<sup>2</sup>. Stroke is a state of decreased oxygen supply to brain cells leading to the tissue death and defined as an acute focal neurological deficit resulting from cerebrovascular disease and lasting more than 24 hours<sup>3</sup>.

Incidence of stroke population varies from 116 to 163 per 100,000 population, it is 4<sup>th</sup> leading cause of death & 5<sup>th</sup> leading cause of disability adjusted life years<sup>4</sup>.

Cerebral infarction is mostly due to thromboembolic disease secondary to atherosclerosis in the major cranial artery. About 20% of infarction are due to embolism from heart and further 20% are due to intrinsic disease of small perforating vessel so called lacunar infarctions<sup>5</sup>.

**Objective-**To assess the combined efficacy of virechana, sarvanga abyanga and matra basti and shamana rasayana in the management of pakshaghata(Right hemiplegia)

### Methodology-

Study design :-Open labelled,Single arm, Prospective, Single case study.



A diagnosed case of pakshagatha( Rt hemiplegia)60 years old male patient came to kayachikitsa OPD of Taranath Govt ayurvedic Hospital, Ballari.,with chief complaints of balakshaya and karmahani of right upper and lower limb of the body, vak kricchrata, suptata of right side of body, anushnasheetajwara since 3 months

### Past history

H/O Hypertension & Diabetes mellitus- On medications

H/O Recurrent CVA- AIS-Left infarct-On medications

Not K/C/O –Allergy, Typhoid, Malaria, Dengue.

### On Examination

- General condition: Moderate
- Pulse Rate: 88/min
- BP: 140/90 mm of Hg
- RR: 18/min
- Mala: 1t/day
- Kostha: Mrudu
- Mutra: 4-5t/day
- Nidra: Sound
- Kshudha: Samyak
- Jihva: Liphata

**Systemic examination-**

- Respiratory system-Normal vesiculo bronchial breath sounds heard; no abnormality detected
- CVS-S1 S2 heard.

**Central Nervous System Examination:****Higher Mental Function**

Consciousness -Fully Conscious

Orientation –oriented to Time, Place,Person

Memory- Immediate,Recent, Remote- Intact

Hallucination and Delusion –Absent

Speech disturbance-present

Handedness -Right

Babinski sign –positive on right side

	Functions	Right extremities		Left extremities	
		Upper limb	Lower limb	Upper limb	Lower limb
A	Sensation	Decreased	Decreased	Normal	Normal
Motor Examination					
B	Tone	Hypo	Hypo	Normal	Normal
C	Power	0/5	0/5	5/5	5/5
D	Muscle-movement coordination	Weak	Weak	Normal	Normal
E	Involuntary movement	Absent	Absent	Absent	Absent
Sensory Examination					
F	Reflexes	Biceps-3+exagrated	Knee-3+exagrated	Biceps-2 normal	Knee-2+ normal
		Triceps-3+exagrated	Ankle-4+exagrated	Triceps-2 normal	Knee-2+ normal

**Investigations (23/3/2023)**

CT BRAIN- Diffuse cerebral atrophy,Infraact in left capsuloganglionic region,partial lobe extending superiorly into corona radiata, centrum semiovale &inferiorly into temporal loba causing mass effect as described.

Left cerebral edema,chronic infraact in right frontal lobe.

Chronic lacunar infraact in left thalamus.



### Intervention:

Date	Days	Procedure	Oral medicines
17/4/23 to 21/4/23	5days	Deepana pachana Sarvanga abhyanga with mahamasha taila Patra pinda sweda	Panchakola churna 3gm with wram water, B/F , twice a day Ekangaveera rasa 250 mg. After food , twice a day Rasna saptaka Kashaya 15ml, B/F twice a day.
22/4/23 to 25/4/23	4 days	Snehapana with mahasneha Test dose-35 ml, F/b 50ml, 75ml, 100ml given	
26/4/23 to 28/4/23	3 days	Vishrama kala (sarvanga abyanga with maha masha taila, F/b patra pinda sweda)	
29/4/23	1 day	Virechana with Nimba amrutadi castor oil-50ml with 50ml milk	
30/4/23	1 days	Samsarjana karma	
1/5/23 to 7/4/23	7 days	Sarvanga abhyanga with mahamasha taila Patra pinda sweda Matra basti with Ashwagandhadi grita Dose-80 ml	Ekangaveera rasa 250 mg. After food , twice a day Malla sindhoora(150mg) with arjuna, yashti,twak,vacha churna 3gms with warm water, A/F Rasna saptaka Kashaya 15ml, B/F twice a day. Balarista 30ml with equal quantity of water, A/f , twice a day.
8/4/23 to 14/4/23	8 days	-	Same shamanoushadis are continued for 7 days.

**OBSERVATION & RESULTS**

During the course of treatment, the condition of patient improved gradually. The strength, power, tone of muscle improved, Anushna sheeta jwara was relieved. Deep tendon reflex was normal after course of treatment.

Symptoms wise;

Subjective parameters	Before treatment	After treatment
	Patient came on wheel chair	Patient was able to stand without support
Anushna sheeta jwara	Present	90% relieved
Vak kruchrata	Present	50% improved
Suptata	Present	30% improved
Karama hani	Present	50% improved
Bala kshaya	Present	70% improved

Investigations:

	Before treatment	After treatment
Vit B12	1379 pg/ml	262.43 pg/ml
Sr Zinc	225 µg/dL	164.36 µg/dL
Sr copper	165.84 µg/dL	121.73 µg/dL



# Before Treatment

# After Treatment

**Test Name**      **Result**      **Unit**      **Bio.Ref.Range**

**Vitamin B12**      1374      µg/ml      180-910

**Interpretation & Limitation:**  
 A normal serum concentration of B12 does not rule out tissue deficiency of vitamin B12. Most sensitive test for B12 deficiency is assay for MMA. If clinical symptoms suggest deficiency, measurement of MMA and homocysteine levels over a 2-hour B12 load are useful.

B12 levels are decreased in megaloblastic anemia, pernicious anemia, sprue, chronic anemia, peripheral neuropathy, alcoholism, severe anemia, and chronic kidney.

An associated increase in homocysteine levels is an independent risk marker for cardiovascular disease and also may be a marker for B12 deficiency. B12 levels are more accurate in the elderly.

Note: Serum B12 levels may have interferences in some circumstances. B12 individuals having high cholelithiasis (more than 5 mg per day) excretion, at least 8-hour fast time before blood draw is recommended.

Ref: Nichols School Lab Ref-001-041, November 2011

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END OF REPORT

**Test Description**      **Value(s)**      **Reference Range**

**SPECIAL BIOCHEMISTRY**

**VITAMIN B12**

**Sample Type: Serum**

**Vitamin B12**      1374 µg      180 - 914

**Notes:** **Clinical significance:**

A. Reduced concentrations of vitamin B12 may indicate the presence of vitamin B12 deficiency.

B. Elevated concentrations of vitamin B12 have been associated with pregnancy, but not with cardiovascular and cardiovascular disease, and with increased homocysteine and methylmalonic acid. An elevated concentration of vitamin B12 is not used to measure vitamin B12 in pregnancy to identify and monitor vitamin B12 deficiency. This can arise from the following: (1) genetic factors, (2) measurement of vitamin B12 is increased to identify and monitor vitamin B12 deficiency. This can arise from the following: (1) genetic factors, (2) measurement of vitamin B12 is increased to identify and monitor vitamin B12 deficiency. (2) genetic factors and (3) genetic factors.

"END OF REPORT"

\*This result is not valid for the purpose of reporting. It is not a result and is dependent on the quality of the sample received by the Laboratory. Failure to follow the protocol for sample collection and handling may result in an incorrect result. Sample quality and quantity is required for testing. Do not use this result for clinical decision making. If you have any questions, please contact the Laboratory at 800-368-6888.

**PROCESSED AT:** Thyrocare, D-375, TTC HSC, Surina, West Bengal-743 703

**REPORT**

**NAME:**      **REF. BY:**      **TEST ASKED:**

**SAMPLE COLLECTED AT:** (1)1871, SRINIVASA LAKSHMIKUMAR COMPOUND, SUSTIANG BELLARY, 581122

TEST NAME	TECHNOLOGY	VALUE	UNITS
SERUM ZINC	PHOTOMETRY	225.7	µg/dL

**Reference Range:** 70 - 200

**Clinical Significance:** Zinc is one of the essential trace elements in the body. Its metabolism plays a key role in protein and nucleic acid synthesis, gene expression, wound healing, as an antioxidant, etc. Deficiency can cause: Poor wound healing, gastroenteritis, impaired spermatogenesis, Alzheimer's disease, etc. Toxicity may be manifested as paronychia, gastro- ulcer, anemia, osteomyelitis, etc.

**Specifications:** Precision: Intra assay (NCV): 3.81, Inter assay (NCV): 3.21

**Kit Validation Reference:** Thomas L. Clinical Laboratory Diagnostics, 3rd ed. Frankfurt: Thieme Verlagsgesellschaft; 1996; p. 347-8

**Please correlate with clinical conditions:** Method:- ITRD - HPLC

**PROCESSED AT:** Thyrocare, D-375, TTC HSC, Surina, West Bengal-743 703

**REPORT**

**NAME:**      **REF. BY:**      **TEST ASKED:**

**SAMPLE COLLECTED AT:** (1)1871, SRINIVASA LAKSHMIKUMAR COMPOUND, SUSTIANG BELLARY, 581122

TEST NAME	TECHNOLOGY	VALUE	UNITS
SERUM ZINC	PHOTOMETRY	224.76	µg/dL

**Reference Range:** 70 - 200

**Clinical Significance:** Zinc is one of the essential trace elements in the body. Its metabolism plays a key role in protein and nucleic acid synthesis, gene expression, wound healing, as an antioxidant, etc. Deficiency can cause: Poor wound healing, gastroenteritis, impaired spermatogenesis, Alzheimer's disease, etc. Toxicity may be manifested as paronychia, gastro- ulcer, anemia, osteomyelitis, etc.

**Specifications:** Precision: Intra assay (NCV): 3.81, Inter assay (NCV): 3.21

**Kit Validation Reference:** Thomas L. Clinical Laboratory Diagnostics, 3rd ed. Frankfurt: Thieme Verlagsgesellschaft; 1996; p. 347-8

**Please correlate with clinical conditions:** Method:- ITRD - HPLC

**PROCESSED AT:** Thyrocare, D-375, TTC HSC, Surina, West Bengal-743 703

**REPORT**

**NAME:**      **REF. BY:**      **TEST ASKED:**

**SAMPLE COLLECTED AT:** (1)1871, SRINIVASA LAKSHMIKUMAR COMPOUND, SUSTIANG BELLARY, 581122

TEST NAME	TECHNOLOGY	VALUE	UNITS
SERUM COPPER	PHOTOMETRY	105.84	µg/dL

**Reference Range:** 80 - 130

**Clinical Significance:** Copper is an important trace element and a component of numerous enzymes and proteins involved in energy production, connective tissue formation, melanin synthesis, iron metabolism, development of central nervous system, angiogenesis as well as an antioxidant. Deficiency can cause: Malabsorption, cardiovascular disease, anemia & osteopathy. Toxicity may be manifested as acute renal failure, gastroenteritis & chronic liver disease.

**Specifications:** Precision: Intra assay (NCV): 3.87, Inter assay (NCV): 3.21

**Kit Validation Reference:** Thomas L. Clinical Laboratory Diagnostics, 3rd ed. Frankfurt: Thieme Verlagsgesellschaft; 1996; p. 327-8

**Please correlate with clinical conditions:** Method:- 3,3-DMS-APSDA

**PROCESSED AT:** Thyrocare, D-375, TTC HSC, Surina, West Bengal-743 703

**REPORT**

**NAME:**      **REF. BY:**      **TEST ASKED:**

**SAMPLE COLLECTED AT:** (1)1871, SRINIVASA LAKSHMIKUMAR COMPOUND, SUSTIANG BELLARY, 581122

TEST NAME	TECHNOLOGY	VALUE	UNITS
SERUM COPPER	PHOTOMETRY	111.73	µg/dL

**Reference Range:** 80 - 130

**Clinical Significance:** Copper is an important trace element and a component of numerous enzymes and proteins involved in energy production, connective tissue formation, melanin synthesis, iron metabolism, development of central nervous system, angiogenesis as well as an antioxidant. Deficiency can cause: Malabsorption, cardiovascular disease, anemia & osteopathy. Toxicity may be manifested as acute renal failure, gastroenteritis & chronic liver disease.

**Specifications:** Precision: Intra assay (NCV): 3.17, Inter assay (NCV): 3.32

**Kit Validation Reference:** Thomas L. Clinical Laboratory Diagnostics, 3rd ed. Frankfurt: Thieme Verlagsgesellschaft; 1996; p. 327-8

**Please correlate with clinical conditions:** Method:- 3,3-DMS-APSDA

**Motor functions Power:**

**Table- 1** Power grade before and after treatment

	Left (BT)(AT)	Right(BT)	Right(At)
Upper limb	5/5	0/5	4/5
Lower limb	5/5	0/5	4/5

**Reflexes:**

**Table-2** Reflexes grade before and after treatment

	Left (BT)(AT)	Right(BT)	Right(At)
Biceps	2	3	2
Triceps	2	3	2
Knee jerk	2	3	2
Ankle jerk	2	4	2
Supinator	2	3	2
Babinskis sign	Negative	Positive	Negative

## Discussion

In Pakshghata, Vata is basic cause of disease which should be treated first. Vata Prakopa can occur due to many causes and margavaranajanya dhatu kshaya is one of them. Shodhana and shamana line of management was adopted based on dosha and roigibala. Snehana, Swedana, and virechana is the line of treatment for pakshaghata according to Acharya Charaka. Sneha yuktavirechana was given with nimba amrutadi castor oil. It is mridushodhana

**Deepana pachana**-pancha kola churna<sup>6</sup> contains pippali, pippalimula, chavya, chikraka, nagara, katu rasa, laghu, ushna, teekshna, ruksha, ushna guna and usna veerya. Shreshta deepana, pachana.

**Sarvanga Abhyanga**- Abhyanga entails rubbing the body in the same direction as hair follicles with any Snehas (fats). The body gets strong and stable, and the skin becomes Drudha and excellent by anointing it with oil. If there is complete Vata vitiation without any form of association (obstruction), it should be addressed with oleation therapy initially. Snehana balances the Vata Doshas and provides Pushti Prasada (food for the dhatus) When Abhyanga is performed for a long enough period of time, the oil reaches the various Dhatus.

**Maha masha taila**<sup>7</sup>- It contains rasna, dashamula, chaga mamsa, yava, kola, kulath ect boiled in masha kwata, bala kwata, ksheera, tila taila. It relieves hasta kampa, shira kampa, bahu shosha, vishwachi, urdwa jatrugata roags, it is special indicated in vata vyadhis. Best in pakshagatha, ardita, kampavata.

### Patra Pinda Sweda

Swedana (sweating treatment) is typically administered following oleation - Snehana therapy. The process known as Swedana relieves Stambha, Gaurava, and Sheeta, which cause sweating. It performs a dual function in both Poorvakarma and Pradhanakarma.

Leaves of Nirgundi, Ernda, and Arka plants have analgesic and anti-inflammatory properties which are the important ingredient of the procedure. Patra pottali Sweda helps in relieving pain, stiffness and swelling, pacifies the morbidity of Vata, Pitta and Kapha in the affected joints, muscles and soft tissues. In pain related arthropathies before Shodhana like Virechan. Patra Pinda Sweda is effective. When the leaves are fried in the oil the Kleda of leaves goes away

### Snehapana

The aim of snehapana therapy is to prepare the body for shodana karma and helps to bring the doshas situated in peripheral tissues to the koshta, so that they can easily expelled out. This is achieved by vriddhi (increase) and vishyandana (dissolution or diffusion) karma of snehapana therapy.

Maha sneha<sup>8</sup>: It contains jeevaniya gana dravyas, grita, taila, vasa, majja, baladwaya, jeevanti, amruta, shringi..ect act mainly as balya, pushtivardana shukradhatu vardana and balances tridoshas. Usefull in all vata vyadhis.

**Virechana karma** Virechana (purgation) described in ayurveda as important aspect of detoxification. Virechana is choice of Sodhana Chikitsa for pitta dushita vyadhi; This study proves efficacy of Virechana in the management of Pakshaghata. The therapy alleviates Vata and purifies the body by removing toxins. There is the involvement of Suddha vata prakopa, Anyadosha Samsirsta vata prakopa and dhatukshayajanya vata prakopa in Pakshaghata. As per modern medical science any stroke or shock associated with ischemia and hemorrhage resulting destruction of brain tissue and disturbed blood supply. Thus, with the help of Virechana Karma vitiated doshas can be expelled out from the body which helps in maintain the equilibrium if the body and reduce the symptoms of the disease.

Nimba amrutadi castor oil contains eranda taila, nimba, amruta, vasa, patola, vidanga, devadaru, manjishta, vacha acts as rechaka, best in vata vyadhi.

### Matra basti

Matra basti is a type of sneha basti, it has been highly praised for its extensive and multi dimensional use & it doesnot causes any complications as the dosage is low. Acc to acharya charak, "bastihi vata haranam", basti is greatest treatment for vata. As a result of basti, one can obtain vayu dosha shaman as well as dhatus snehana. It is specially indicated in vyayama, bhara, karma, adhwa, yana stree karshita, doubalya, vaata vyadhi.

Ashwagandhadi grita<sup>9</sup> – excellent for vata & pitta vitiation.,increases muscle mass,relieves stress, improve energy, strength and vitality. Also act as rasayana and balya.It nourishes the body.

Shamana rasayana yogas

Ekangaveera rasa<sup>10</sup> contains shuddha parada, gandhaka, lohabhasma, vanga tamra, abraka,trikatu, triphala.. balances vata &kapha dosha, acts as brimhana, rasayana,vishagna,atyanta teekshna.

Malla sindhoora<sup>11</sup> contains shuddha parada, gandhaka, rasakarpura, shuddha malla with arjuna,yashti,twak,vacha churna, given with madhu,relives pain and stimulates nervous system. Mainly indicated in neurological disorders. Rasna saptaka Kashaya<sup>12</sup> acts as shoolahara and amapachana. Balarista<sup>13</sup> as balya,agni& pushtivardana

## Conclusion

Pakshaghata is a mahavatavyadhi and is difficult to manage.To treat Pakshaghata when it is associated with complications is challenging. Snehana, swedana and mrudu samshodhana (snigdha virechana and basti) selective therapy for vatavyadhi. In this case of pakshaghata, virechana karma was done which eliminates the vitiated doshas from body. Sarvanga abhyanga and matra basti mainly as balya, brimhana and pushtikara. And also proper combination of internal rasayana medications gives promising results. This case study shows how Ayurvedic medicine may successfully manage Pakshaghata.

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