

Ayurvedic Management of *Pakshaghata* (Left Hemiplegia) – A Case study

Case Report

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Abstract

Hemiplegia is the commonest manifestation of a Stroke with neurological deficit affecting the face, limbs and trunk on one side or either side of the body. Stroke is one of the leading causes of death and disability in India. The aggravated *Vata* paralyze one side of the body either right or left, leads to immobility is called as *Pakshaghata*. The present case study deals with a 63years old male patient with chief complaints weakness in left half of the body and was unable to walk. He was a diagnosed case of Haemorrhagic Stroke presenting with Left Sided Hemiplegia with Acute Intraparenchymal Haemorrhage in C.T. brain. The Ayurvedic diagnosis of *Pakshaghata* was made and managed with treatment principle which is mentioned by *Acharya Charaka*. *Snehana*, *Swedana* and *Mridu Virechana* along with *Panchakarma* procedures *Shirodhara*, *Shiropichu* and *Basti* for 21 days. *Samshamana Aushadhis*(Oral medicines) and Physiotherapy were adopted at various stages of the diseases. Maximum improvement was noticed in upper and lower extremity functions at the end of the treatment. Patient showed remarkable recovery in Speech ability and Mobility. *Panchakarma* is a minimal invasive Bio-Cleansing procedure which can be adopted in life style, metabolic, autoimmune diseases and also periodic healthy individual as preventive measures.

Key Words: Hemiplegia, Stroke, *Vama Pakshaghata*, *Panchakarma*, *Snehana*, *Swedana*, *Virechana*, *Shirodhara*, *Shiropichu*, *Samshamana Aushadi*, Physiotherapy.

Introduction

Ayurveda “The science of Life” places great emphasis on prevention and encourages the maintenance of health through close attention in one’s life, right thinking, diet, lifestyle and the use of herbs. The normal *Vayu* is at its own site with *Avyahata Gati* (unobstructed movement), is responsible for long life span of hundred years devoid of diseases (1).

Pakshaghata is an important *Vatavyadhi* described under *Vataja nanatmaja vyadhi* and *Mahavatavyadhi* can manifest either due to *dhatukshaya* and *margavarana* (2). The term *Pakshaghata* literally means, “Paralysis of one half of the body” where *Paksha* denotes either half of the body and *Aghata* denotes the impairment of *Karmendriyas* and *Gyanendriyas*. So *Pakshaghata* is an *Indriya pradoshaja vikara* and *Upadhatu pradoshaja vikara* (3) which comes under *Madhyama roga marga* (4). *Karmendriyas* are considered as part of the motor system and *Gyanendriyas* which is related to sensory system. *Manas* is supposed to control both. *Acharya Charaka* has given a similarity while explaining *Ardita*

and *Pakshaghata*. Involvement of both *Karmendriya* and *Jnanendriya* are seen in *Ardhita* whereas *Pakshaghata* is a *Karmendriya pradhana vikara* (5). *Acharya Charaka* explained that *Prakupitha Vayu* take shelter in on half of the body causes *Pakshaghata* which is associated with stiffness of joints (6) whereas *Acharya Sushruta* explained that *Vata dosha* travels in *Urdhava Adhoga Tiryaka Dhamanis* and caused *Sandhi Bandhana moksha* that ultimately leads to loss of function in one half of body is called *Pakshaghata* (7). With the review of Ayurvedic literature, it is evident that no specific etiological factors described separately for *Pakshaghata*. So, certain factors vitiating *Vata dosha* in body are the root cause. *Nidana* described for *Vata* disorders in various Ayurvedic texts are classified systematically as below:

1. *Aharajanya* Factors
2. *Viharajanya* Factors
3. *Manasika* Factors
4. *Abhigataja* Factors
5. *Any* Factors (8)

Acharya Chakrapani says that *Abhigata* is one of the *nidana* of *Pakshaghata* especially *Marmabhigata*. Head is considered as a vital part (*marma*), the seat of *Indriya* and *Prana*. *Shiromarmaghata* causes diseases like *Ardita*, *Manyastambha*, *Mukatva*, *Cheshta-Nasha*, etc. which are seen in *Pakshaghata*. Injury to *Lohitakshamarma* causes loss of blood and leads to *Pakshaghata*. Injury to *Kakshadharamarma* also causes *Pakshaghata* (9). The

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cardinal features of *Pakshaghata* include *Chesta hani* (impaired motor activity), *Ruja* (Pain), *Vakstambha* (slurred speech) (6). *Pakshaghata* is commonly correlated with signs and symptoms of Stroke mentioned in Modern Science.

‘Stroke’ is defined as rapid onset of focal neurological deficit, resulting from diseases of the cerebral vasculature and its contents. The term ‘transient ischaemic attacks’ (TIA) implies complete recovery of such a deficit within 24 hours. Cerebral or subarachnoid haemorrhage is consequent to rupture through some acquired or inherent weakness of the vessel wall. The estimated adjusted prevalence rate of stroke range, 84-262/100,000 in rural and 334-424/100,000 in urban areas. The incidence rate is 119-145/100,000 based on the recent population studies. The normal functions of the brain are dependent upon a relatively constant supply of oxygen and glucose derived from the blood perfusing it (55 mL to 70 mL of blood/100 g of brain/min). The principal source of energy is almost exclusively oxidation of glucose. If the blood flow is critically reduced below 15 mL/100 g/min, the resulting ischaemia with hypoxia, when sufficiently prolonged, may cause death of neurons and glia (cerebral infarction). Three types of major strokes are now recognised. These are ischaemic, haemorrhagic and lacunar strokes. Ischaemic variety with cerebral infarction results from atherothrombosis or brain embolism to cerebral vessels. Haemorrhagic stroke with bleeding within the central nervous tissue occurs due to ruptured cerebral aneurysm in the young and hypertensive intra-cerebral bleeding in the elderly. Lacunar strokes are deep, small cerebral infarcts located in basal ganglia or deep white matter, resulting from diseases of small penetrating vessels. (10)

Currently *Panchakarma* Therapy is commonly Practised for treating the patients of various disorders with the principle of Ayurveda. *Panchakarma* literally means five procedures like, *Vamana* (therapeutic emesis), *Virechana* (purgation), *Asthapanavasti* (enema using medicated decoction), *Anuvasanavasti* (enema using medicated oil) and *Shirovirechana/Nasya* (nasal administration of medicines). Along with these five major procedures there are various other allied therapies like *Snehana* (Oleation), *Swedana* (fomentation) etc which are also *Poorvakarma* of *Panchakarma*. *Panchakarma* is very useful in treating Neurological diseases as well as Paralysis. (11)

Along with the *Panchakarma* Physiotherapy also acts as “hands-on” manual therapy used to aid in a Rapid recovery and Rehabilitation from *Pakshaghata*. In addition, Physiotherapy can be used to maintain the body in its optimum state and also aid in reducing the chances of and even preventing a re-injury. All of the physiotherapy techniques allow the joints, muscles, ligaments, and tendons to function better (12). By considering all the above facts the present study to assess the Efficacy of planned *Sodhana* in *Pakshaghata*. So, this can be better assessed by the case study what has been conducted.

Case Report

A patient of 63 years aged, married male from Chalamali, Gujarat was brought to *Panchakarma* Outpatient department of Parul institute of Ayurveda and Research IPD on 05/03/2021 with complaints like reduced strength in the left upper and lower limbs with associated complaints unable to walk and slurred speech since one month and got admitted on the same day. The subject was a previously diagnosed case of Cerebrovascular Accident (Intraparenchymal haemorrhage).

History

As per the statement of the by-stander, patient was healthy before one month and he had a sudden fall down on 09/02/2021, and later developed with complaints like reduced strength in the left upper and lower limbs with associated complaints difficulty in walking and slurred speech. He was admitted in a local hospital with left hemiplegia and was diagnosed as a case of CVA (Cerebrovascular accident) for which he is treated for 5 days. As per the patient he did not find any relief from the complaints. So, he got admitted in our hospital. From 05/03/2021 to 25/3/2021 he underwent Ayurvedic treatment for the same and was discharged after remarkable improvement. He sought Ayurvedic care to regain normal functions of both the limbs of left side and speech. His blood pressure was 150/90mm of Hg, Temperature 98.6 Degree Fahrenheit, with only limited movements observed in the left limbs (Power 1/5) and unaffected right limbs (power 5/5). There is a history of Hypertension after the occurrence of stroke. No past history of head injury, Diabetes Mellitus or Dyslipidaemia could be elicited.

Physical Examination

- Blood pressure - 150/90mmhg.
- Pulse rate – 82/min.
- Respiratory rate – 16/min.
- Temperature – 98.6° F
- Edema – No
- Pallor – No
- Icterus – No
- Clubbing – No

Ashtasthana Pariksha

- *Nadi*(Pulse) - *Vatapradhana kapha*
- *Mala*(Stool) - *Vibhandata*
- *Mutra*(Urine) - *5-6 times per day*
- *Jivha*(Tongue) - *Saama*
- *Shabda*(Speech) - *Slurred speech*
- *Sparsha*(Tactilation) - *Samashitoshna*
- *Druk*(Eyes) - *Prakruta*
- *Akriti*(Anthropometry) – *Madhyama*

Systemic Examination

- Respiratory system - on auscultation, normal sounds heard and no abnormality detected.
- Cardiovascular system - S1 S2 heard and no abnormality detected.
- Gastrointestinal system - Soft, non-tender, no organomegaly detected.

Central nervous system

Higher functions

- Consciousness- Fully conscious
- Orientation - Fully oriented to time, place and person
- Memory Intact.
- Behaviour friendly.

Cranial Nerve Examination

- Facial Nerve Examination – Asymmetry of Face (Deviation of mouth to Right Side).

Motor functions

- **Gait:** Unable to walk

Power

- Right Upper and Lower limb- 5/5
- Left Upper and Lower limb- 1/5

Reflexes

- Deep reflexes such as biceps, triceps, supinator, knee jerk and ankle jerk on affected side (left) were found to be diminished and on right side found to be normal.

Tone:

- Left upper and lower limb was found to be hypotonic (when compared to right side)
- Sensory functions are normal

Laboratory Investigations

Haematological investigations were done on 09/02/2021 and found to be normal.

- Hb - 13.9gm%
- Total WBC count- 10,500 cells/cm
- RBS – 144mg/dL
- Total Cholesterol – 153mg/dL
- Triglycerides – 94mg/dL
- LDL – 55.2mg/dL
- VDL – 49mg/dL
- VLDL – 18.8mg/dL
- Serum Creatine – 1.38mg/dL

Specific Investigation

- Computerized tomography scan of head done on 09/02/2021 shows 5.6 x 3.5 x 2.2 cm sized acute intraparenchymal haemorrhage in right Capsuloganglionic region and right temporal lobe white matter. It is compressing lateral ventricle with midline shift of 1.9 mm to left side.
- Case was diagnosed as a *Pakshaghata* (Cerebrovascular Accident).

Materials and Methods

Centre of study: Parul Institute of Ayurveda and Research Hospital IPD, Vadodara
Simple random single case study

Treatment Advised

Table.1 : Internal Medication

Sl.No	Name of Medicine	Dose	Time	Anupana
1	<i>Erandamoola kwatha</i>	25ml	2 times Before Food	Luke warm water
2	<i>Lasunadi Vati</i>	2 tab	2 times After Food	Luke warm water
3	<i>Erandabrishta haritaki</i>	500mg	Bed Time	Luke warm water
4	Cap. Palsinuron	2 tab	2 times After Food	Luke warm water

Table 2: Showing details of treatment given to patient

Sl.No	Procedure	Date	No of Days
1	<i>Sarvanga Abhyanga</i> with <i>Ksheerabala taila</i> (Minutes)	05/03/2021 - 25/03/2021	21
2	<i>Nadi Sweda</i> (Minutes)	05/03/2021 - 25/03/2021	21
3	<i>Sirodhara</i> with <i>Tila taila</i> processed with <i>Jatamamsi choorna</i> and <i>Amalaki choorna</i>	07/03/2021 - 16/03/2021	10
4	<i>Yoga Basti</i> <i>Erandamooladi Niruha basti</i> <i>Anuvasana basti</i> with <i>Ksheerabala taila</i>	08/03/2021 - 15/03/2021	8
5	<i>Matra Basthi</i> with <i>Ksheerabala taila</i>	16 /03/2021 - 25/03/2021	10
6	<i>Shiropichu</i> with <i>Jatamamsi choorna</i> & <i>Amalaki choorna</i> in <i>Ksheerabala taila</i>	17/03/2021 - 25/03/2021	9
7	<i>Jihwa nirlekhana</i> with <i>Vacha choorna</i> and <i>Yastimadhu choorna</i>	08/03/2021 - 25/03/2021	18
8	Physiotherapy	05/03/2021 - 25/03/2021	21

Table 3: Ingredients of Erandamooladi Niruha Basti

Sl.No	Drugs	Dose
1	<i>Makshika</i> (Honey)	30 ml
2	<i>Saindhava</i>	10 gm
3	<i>Ksheerabala taila</i>	80 ml
4	<i>Bala kalka</i>	10 gm
5	<i>Triphala kalka</i>	20 gm
6	<i>Ashwagandha kalka</i>	10gm
7	<i>Erandamoola Kashaya</i>	500 ml
	Total	660 ml

Table 4: Duration and doses

Drug	<i>Niruha - Erandmoola niruha basti.</i> <i>Anuvasana – Ksheerabala Taila</i>
Dose	<i>Niruha - 660 ml</i> <i>Anuvasana - 80 ml</i>
Kala	<i>Niruha - abhukta</i> <i>Anuvasana - adrapaninam bhojana</i> (immediately after meals)
Duration	<i>Yogabastikrama:</i> D1, D3, D5, D7, D8 - <i>Anuvasana basti</i> D2, D4, D6 - <i>Niruha basti</i>

Table 4: Medication prescribed on discharge for 15 days.

Sl.No	Name of Medicine	Dose	Time	Anupana
1	Cap. Palsinuron	1 tab	Before Food	Luke warm water
2	Lasunadi Vati	2 tab	After Food	Luke warm water
3	Erandabrishta haritaki	500mg	Bed Time	Luke warm water

Results

The condition of the patient improved gradually along with the course of the treatment. The Strength and Power of both Left upper and lower limb was increased to 5/5, also Tone of the muscle improved, Deep tendon reflex was normal after the course of treatment.

Table 5: Assessment of results

Upper and lower limb	On First day	On 12 th day	On Discharge
Power	1/5	2/5	5/5
Tone	Hypotonic	Hypotonic	Hypertonic
Involuntary movements	Present	Reduced	Absent
Reflex	+	Improved	++(Brisk/Normal)
Speech	Slurred	Improved	Normal

Discussion

Acharya Charaka gave the precise *Chikista Sutra* for *Pakshaghata*. Charakacharya mentioned *Swedana*, *Snehana*, and *Virechana* as treatment modality for *Pakshaghata* (13). Acharya Jejjata & Gangadhara interprets this as *Snehayukta Swedana* and *Snehayukta Virechana*. *Sushrutachrya* explained patient of *Pakshaghata* who is not emaciated, has pain in the affected part, habitually follows the rules of diet, and regimen; who can afford to pay for the necessary accessories considered for the treatment (14).

Initially, *Snehana* and *Swedana* are to be provided along with *Nithya Virechana*. Thereafter *Niruha Basti*, *Anuvasana Bati* and *Shirodhara* with other treatment Procedures should be administered.

Snehana

Abhyanga

Abhyanga is one among the *Dinacharya* and is an ancient Indian Ayurvedic approach adopted for healing, relaxation and treating various diseases (15). *Abhyanga* means massaging the body with any *Snehas* (fats) in the same direction of hair follicles. How pot, leather and axle of cart become strong and efficient by oiling, similarly the body becomes strong and stable and so also the skin becomes *Drudha* and good by anointing it with oil, which acts on vitiated *Vata*, and body becomes capable of withstanding fatigue and exercise. If there is absolute vitiation of *Vata* without any kind of association (obstruction), it should be treated at first with oleation therapy. In *Pakshaghata* there is *Sira Snayu Sankochana* *Snehana* is very essential for such

condition. It pacifies the *Vata doshas* and *Pushti prasada* (nourishes the dhatus) (16). *Abhyanga* is done for sufficient time, the oil reaches to the different *Dhatu*. Hence, it is clear that the potency of drug used in oil is absorbed into the skin. *Dhatu* it subsides the diseases of that particular *dhatu*. Acharya Charaka described that *Vayu* dominates in the *Sparshanendriya* and its site is *Twak*. The *Abhyanga* is exceedingly beneficial to the skin, so one should practice it regularly. *Indriya* are in close contact of mind hence if *Indriya* healthy, mind remains healthy. Thus, *Abhyanga* keeps body and mind healthy. Acharya Sushrutha explains that the four *Tiryak Dhamanis*, each divides gradually hundred and thousand times and thus become innumerable. These cover the body network and their openings are attached to *Romakupa*. Through these only *Virya* of *Abhyanga*, *Parisheka*, *Avagaha*, *Alepa* enter in to the body after undergoing *Paka* by *Bhrajaka pitta* in skin and produces desired therapeutic action. Among the properties of *Snehana snigdha* and *Guru guna* acts as *Vatahara*, *balya* and *Pushtihara*. *Mridu guna* reduces the stiffness by its opposite quality of *Kathina guna* and *Sukshma guna* helps the penetration of drug in to the minute channels (17). By *Abhyanga* the nervous system gets stimulated, thus providing stimulation to the muscular system, vessels and glands governed by the particular nerve and keeps the human body healthy. Massaging also improves the circulatory system thus reducing the pain. Usually lukewarm medicated oil should be used for massaging. The warm oil stimulates the *Swedavaha Srotas* (perspiring body channels) thus causing dilatation of the blood vessels there by increasing the blood circulation, thus relieving pain, stiffness and contraction of vessels. In *Marmas*, the *Prana* (energy) resides. By doing massage, the vital points get stimulated and produce positive energy, thereby protecting, rejuvenating and increasing the immunity towards environmental changes (18).

Here *Abhyanga* was done with *Ksheerabala taila* which is having excellent *Rasayana* property, is good promotor of sensual wellbeing, Vitaliser, promote, body built, very well for voice and alleviates *Shukra* and *Asrik* disorders. Is an important *Sneha Kalpana* (oil formulation) mentioned in Ayurveda texts prepared from *Go-Ksheera* (cow milk), *Bala* (*Sida cordifolia*) and *Tila Taila* (sesame oil). The probable mode of action of *Ksheerabala Taila* could be analysed by its *Rasa Panchaka*. All the three ingredients *Bala*, *Ksheera* and *Tila Taila* possess *Madhura Rasa* and *Vipaka*. *Madhura Rasa* mitigates both *Vata* and *Pitta Dosha*. It is *Dhatunaamprabalam* (strength to the tissue) and is good for sense organs and pleasing to mind (*Shadindriyaprasadaka*). It nourishes the body (*Tarpayati*) and plays a major role in promoting life (*Jeevayati*) (19). *Tila Taila* possesses *Tikta Rasa* (bitter taste), the most effective in mitigating *Pitta Dosha* and *Kapha Dosha* in addition to *Madhura Rasa*. *Tikta Rasa* is effective in relieving fainting (*Murchaprasamana*) and promotes memory and intellect (*Medhya*). *Ushna Veerya* (of heating virtue) of *Tila Taila* reduces the *Vata* and *Kapha*. Since it has gone through processing by *Sheeta Veerya* drugs like *Bala* and *Ksheera*, its

Ushnatva may get altered. *Vata* and *Kapha* are alleviated without agitating *Pitta* which is also *Ushna*. Thus, *Ushna Guna* of *Ksheerabala* acts without having adverse on *Dhatu*. This clears the channels, thereby allowing the action of the properties like *Snigdha*, *Manda*, *Sukshma* and *Vyavayi* (20). *Ksheerabala Taila* is said to have pacifying effects on all the eighty chronic conditions of *Vata* origin.

Swedana

Nadi sweda

Swedana (Sweating treatment) is usually given after oleation- *Snehana* therapy. *Swedana* is the procedure that relieves *Stambha*, *Gaurava*, *Sheeta* which induces *Swedana* (Sweating). It plays a dual role in *Poorvakarma* as well as *Pradhanakarma* (21). *Swedana* has relaxing and detoxifying effects on the human body. *Nadi Sweda* is a form of sweating treatment in which the steam is sent through a tube. It is a form of *Bashpa Sweda* or providing sweating through the vapors. The vapors coming through the tube are made to reach the afflicted parts of the body after oil massage. *Nadi Sweda* is highly beneficial in many conditions in all diseases caused by vitiated *Vata* and especially in *Stambha/Sankocha pradhana Vata vyadhi* (22).

Mode of Action of Swedana

Swedana has its main actions like *Stambhaghna*, *Gauravaghna*, *Shitaghna*, and *Swedakarakatva*. How *Swedana* performs their actions, we can understand it as below.

Stambhaghna:

Swedana releases *Sthambha* means stiffness. *Samana Vayu* which promotes *agni*, *Sleshakakapha* which is located in *Sandhi*, *Amarasa*, *Mamsa*, *Meda*, *Vasa* are mainly responsible for *Stambha*. *Samana Vayu*, by *Rukshaguna*, absorbs *Snigdha* and so causes *Stambha*. *Sleshkakapha* is *Snigdha*. Due to its loss of function, *Sthambha* occurs. *Swedana* is *Snigdha* and *Ushna* so it relieves *Stambha*. *Ushnaguna* of *Swedana* does *Srotoshuddhi* and *Amapachana* and so it relieves stiffness.

Gauravaghna:

Swedana relieves heaviness in the body. *Apyaghataka*- Liquid substances of the body come out through *Sweda*. *Apyatatva* is *Guru*. Due to their expulsion, lightness is achieved. *Swedana* stimulates muscles and nerves and so lightness is gained.

Shitaghna:

Swedana is mainly *Ushna* so it relieves *Shita* by opposite property.

Sweda Karakatva:

Swedana promotes Sweating. *Sweda* is a type of *mala*. Impurities of the body come out with *Sweda*. *Sweda* is related to *Dhatvagni* and *Bhutagni* (Metabolism). *Swedana* drugs by *Ushna* and

Tikshnaguna are capable of penetrating the microcirculatory channels (*Srotas*) where they activate the sweat glands to produce more sweat. after dilatation of micro channels, *Laghu* and *Snigdhadasha* in the channels and direct them to move towards *Kostha* or excrete them through micropores of the skin in the form of sweat, resulting in *Srotoshodhana*. *Dosha* brought in *Kostha* are expelled out of the body with the help of *Vamana* or *Virechana* therapy (23).

Virechana

Virechana is the procedure which expels out the *Doshas* through *Adhomarga* i.e., *Guda*. This *Karma* mainly aims to eliminate *Pitta doshas*. After *Virechana* Therapy, the person gets purity of channels of circulation, clarity of the sense organs, lightness of the body, increase in energy, promoting power of digestion and metabolism, freedom from diseases, expulsion of faeces, etc (24).

Sramsana/Mriduvirechana

The Drugs, which are *Manda* in *Virya*, when combined with opposite *Virya* or given in low dose, given to *Ruksha* patient and causing less purgation is known as *Mridu Virechana*. *Acharya Charaka* has the view that the Physician should not hesitate to use *Mridu Virechana* drugs in weak patients having more *Doshas* because repeated elimination of *Doshas* in small quantity may cure the disease. The patient who have not taken *Virechana* Drugs in past and whose *Kostha* is unknown in such patients *Acharya Sushruta* recommended the use of *Mridu Virechana* drugs in the beginning and after knowing the *Kostha* required drug may be prescribed. These act by coating the surface of the faeces with a water-immiscible film and by increasing the water content of the faeces to provide a lubricant action. These drugs expelled morbid material without digestion (25).

Mode of action of virechana drugs

Virechana Drugs are *ushna* (hot), *Tikshna* (sharp), *Sukshma* (subtle), *Vyavayi* (pervading the entire body before getting digested) and *Vikasi* (causing looseness of joints). By virtue of their own potency, *Virechana dravya* reach the heart, and circulate in all the body through the vessels. Due to their *Agneya* nature, they liquefy the compact *Doshas*. Due to their *Tikshna guna* they separate the adhered *Doshas* in the channels of the entire body. Due to its nature to move through subtle channels and to flow towards the gastro intestinal tract, this morbid material reaches the stomach. Due to the predominance of *Prithvi* and *Jalamahabhutas* in *Virechana* drugs and because of their specific action (*prabhava*) to move downwards, the *Doshas* or morbid material get expelled through the downward tract (anus). The medicine used for *Mridu virechana* is *Eranda Bhrishta Haritaki* (24).

Eranda Bhrishta Haritaki

Eranda Bhrishta Haritaki (EBH), synonymously known as *Gandharva Haritaki* is popular Ayurvedic formulation indicated in the management of

pain in *Amavata* (rheumatoid arthritis), *Gridhrasi* (sciatica), *Ardita* (facial paralysis). The formulation also therapeutically used as per the indication of single drugs it consists, that is, *Haritaki* (*Terminalia chebula*) and *Eranda* (*Ricinus communis*) castor oil. The formulation is used for *Anulomana* (Carminative), *Vatavyadhi* and in *Ajirna* (indigestion). *Haritaki* is attributed with many qualities like act as *Deepana* (Appetizer), *Pachana* (Digestive), *Anulomana* (Carminative), *Rasayana* (Rejuvenator) and *Chakshushya* (in Eyes disorder). *Eranda* possess *Vatahara*, *Vrishya*, *Rechana* (Purgative) properties. *Eranda taila* is antagonistic to *Vata dosha* due to its innate qualities and has *Pakwashaya Shodhaka* (cleans the large intestines) action (26).

Basti

Bastikarma is the procedure by which the medicines in suspension form are administered through rectum or genitourinary tract using *Bastiyanttra*. It is the most important procedure among *Panchakarma* procedures and the most appropriate remedial measure for *Vata dosha*. *Basti karma's* place of action is *Pakwashaya* which is *Vata Dosha's* main site. Hence it is the major treatment modality for *Vata Dosha* (27). According to the nature of medicine used, two types of enemas are:

- ***Asthapana/Kashaya/ Niruha Vasti*** - Decoction based enema (*Erandamoola Niruha basti*)
- ***Anuvasana/ Sneha Vasti*** - Oil based enema (*Ksheerabala*)

Mode of Action

When *Basti* is introduced into the *Pakwashaya*, the *Veerya* of *Basti* reaches all over the body, collects the accumulated *Doshas* and *Shakrut* from *Nabhi*, *Kati*, *Parshwa* and *Kukshi pradasha*, causes *Snehana* to the body and expels out the *Dosha* along with *Pureesha*. *Charakacharya* have explained that it is '*amrutopamam*' for the patients having *Kshina Majja*, *Shukra* and *Oja* and has properties like *Balya*, *Brimhana* and *Pushtikara* (28).

Effect from Niruha basti:

Madhu having *Yogavahi* and *Sukshma marga anusarita* property acts as catalyst and penetrates into the *Sukshma Srotas*. *Saindhava lavana* having *Laghu* and *Tridosha Shamaka guna* was added to it. *Sneha dravya*(*Ksheerabala*) having *Snigdha guna* combats *Ruksha* and *Laghu guna* of *Vata*, which in turn causes *Vata Shamana*. *Kalka* (*Triphala, Bala*) are the main drugs, which gives potency to the whole combination. It helps to disintegrate the *Malas*. *Kwatha* does *Anulomana* and *Nirharana* of *Doshas* (29).

Erandamoola Niruha Basti is *Vataghna* and is indicated in *Jangha*, *Uru pada*, *Prushta Shula hara*. *Eranda* being main ingredient, has *Snigdha*, *Sukshma* and *Teekshna* properties does *Srotoshodhana* and thus acts as *Vatahara*, *Balya* and *Vedhanasthapana* (30). *Bala choorna* have Anti-inflammatory property it reduces Inflammation in body. It is enriched with Antioxidants, which aids in neutralizing effect of free radical in body. It helps to relieve Spasm of

involuntary muscles. In Ayurveda, *Bala choorna* have *Balya*, *Bhrughan Ojavardanum*, *Krantikruta*, *Vataharanam* properties which help in to eliminate vitiated *Vata dosha* (31). Hence considering the properties of all the ingredients, *Erandamoola Niruha Basti* is effective in treating *Pakshaghata*. Considering the *Bala* of the patient the *Matra* of *Niruha Basti* is reduced to half.

Effect from Anuvasana basti:

Anuvasana basti will retain the oil for a specific period without causing any adverse effect. It protects *Pureeshadhara kala* by giving *Snehana* effect. *Ksheerabala Taila* having *Guru* and *Snigdha guna* combats *Ruksha* and *Laghu guna* of *Vata*, which in turn does *Vata shamana*. *Acharya Charaka* while assessing the *Anuvasana Basti* records the digestion of *Sneha* by the words "*Sneham Pachati Pavakah*" and after digestion *Dravyas* can be absorbed to cause the effect on the body (32).

Shirodhara

Shirodhara as the name suggests is formed by two different terms *Shira* (head) and *Dhara* (flow) is pouring of fluids like decoction, medicated oil, medicated milk, Medicated butter milk, water etc over the head continuously in rhythm from a specific height for specific period (33). *Shirodhara* is done with *Tila Taila* processed with *Jatamansi* & *Amalaki choorna*. Head is the substratum of all the sense faculties or *Indriyas* (sense organs), it is also known as *Uttamanga*. Because of this, *Shirodhara* gives strength to the *Prana* and *Indriyas*.

Taila Dhara has the properties like *Mana Sthairyakara*, imparts strength, induces sound sleep, increases intellect, etc. hence is the therapy of choice (34). *Jatamansi* is one such drug which can be used here as it acts on the *Manovaha srotasa*. It is *Tridoshaghna*, *Balaprada* and *Medhya* hence helps in breaking the *Samprapti*. *Jatamansi* acts on *Tridosha* and also acts on the *Srotasa* involved. It is also called as *Tapaswini* which suggests it is *Satwa guna Pradhana* in nature. Hence it works on the *Satwa guna* present in our mind which is decreased in this disease (35).

Amalaki possesses key properties like properties like *Rasayana* (Adaptogenic), *Ajara* (Anti-ageing), *Ayushprada* (prolonged cell life), *Sandhaniya* (Improves cell migration and cell binding). It is *Tridoshashamaka* and alleviates *Vata* Due to its *Amla rasa* (Sour) (36). *Charaka Samhita* mentioned *Amalaki* is one of the most potent and nutritious drug and also a best Rejuvenating herb (*Amalaki Vayasthapnanam Sreshtham*) (37). It possesses anti-inflammatory properties, nourishes body tissue and organs.

Mode of Action

Shirodhara works as *Samvahana* (gentle massage) on the head, and this re-establishes the functions of *Vata* and *Mana*, because *Sparshendriya* (skin) is *Chetsamvahi* (inherently association with mind) and *Vata* is seated in it. Continuous flow of *Shirodhara* on *Shira* may improve the *Dhi* (intellect),

Dhiriti (restraint/ retention) and *Smirti* (memory) i.e. there is balance of *Raja* and *Tama Dosha* and improvement of *Satwa Guna*. Through its mechanical effect, *Shirodhara* re-establishes the functional integrity between the *Doshas* located in *Shira* or *Hridaya* i.e. *Prana*, and *Vyana Vayu*, *Sadhaka Pitta* and *Tarpaka Kapha*. The forehead has vital spots (*Marma*) *Sringataka*, *Sthapani Marma*. According to *Acharya Bhela*, the site of *Chitta* (mind) is *Bhrumadhya* (region between two eyebrows) i.e. *Sthapani Marma* and *Buddhivaiseshika Alochaka Pitta* also situated on this region. The *Shirodhara* helps the patient to concentrate on this essential area, which eventually leads to stability in the functions of mind (38). *Shirodhara* deeply relaxes the nervous system, lowers metabolism, integrates brain function and creates brain wave coherence. When the brain is under stress, cerebral circulation is compromised as the oil is poured on the head the nervous system is deeply stilled the brain waves slow down and coherent. Once the brain is quieted, more life energy and oxygen and other nutrients flow freely to brain. This result is better brain function, mood stability. Regular treatments are said to increase blood circulation to the brain, improved memory and sound sleep and calm body and mind.(39)

Shiropichu

Shiropichu is a word comprising of 2 terms, *Shiro* meaning Head, *Pichu* meaning a Swab or Sterile cotton pad or a sterile cloth dipped in Medicated oils. Thus, *Shiropichu* means an Ayurvedic treatment procedure which includes keeping a sterile cotton pad dipped in herbal oils on the crown of the head at the *Brahmrandra* (anterior fontanelle) and wrapping it up with a bandage cloth for a specific time interval (40). *Shiropichu* is done with *Jatamamsi* & *Amalaki choorna* with *Ksheerabala Taila*. *Shiropichu* is one of the most effective treatment for reducing stress and nervous tension. It works through action on *Tarpaka Kapha*, *Sadhaka Pitta* and *Prana Vayu*. Due to *Tikshana*, *Vyavayi* & *Sukshma* property of *Taila* it penetrates easily into *Manovaha srotas* correcting vitiation of *Manas Dosha* (*Raja* & *Tama*). At the same time the *Bhrimhana*, *Balya*, *Vata shamana*, *Medhya* properties of *Taila* corrects all *Manas vikaras*. *Shiropichu* improves the circulation there by correcting the brain circulation which is very important in stress (41).

Jihwa Nirlekhana

Jihwa Nirlekhana was done with *Vacha Choorna* and *Yastimadhu Choorna* are very effective in managing speech disorder. *Vacha* has a special place in Ayurveda as it is a main *Medhya* drug, which has the property of improving the memory power and intellect. *Acharya Charaka* has categorized *Vacha* in *Lekhaniya* and *Sanjnanasthapana Mahakashaya*. *Vacha* has a special potency (*Prabhava*) as a nervine tonic (*Medhya*). Due to these properties, it pacifies *Vata* and *Kapha*. Due to *Pramathi* and *Lekhana* property by which it disintegrated the *Kleda*, *Meda*, *Lasika*, *Sweda* and *Vasa* and eliminates the *Mala*, *Kapha* and *Pitta* from the *Srotas* & Due to *Katu Rasa*, all the involved channels

are dilated i.e. “*Srotansi Vivrunoti*” action (42). *Yashtimadhu Choorna* is one among four *Medhya Rasayana* mentioned in *Charaka Chikitsa*. *Yashtimadhu* is used in the hoarseness of voice. By virtue of its *Madhura Rasa* it promotes the formation of *Ojas* and also pleases the sense organs, pacifies *Pitta-Vata* and nourishes all the *Dhatus*. Drugs having *Madhura Rasa* are considered best in providing *Snigdhatva* and *Sheetatva* which are most required for *Manas* to work better. Normalizing *Doshas* due to *Madhura Rasa*, *Madhura Vipaka* and *Snigdha- Guru Guna* which synergistically normalizes vitiated *Vata* and *Pitta*, potentiate *Kapha*. Here the *Kapha Dosha* maintains balanced condition of the mind (43). *Vata* is the controller of all activities of mind, so by normalizing *Vata Dosha* (*Prakritavastha*) it leads to maintenance of the functions of mind resulting into promotion of mental health and Speech (44).

Erاندamoola Kwatha

Eranda (*Ricinus communis Linn.*) is one of them plant is still widely used herbal medicine in *Vata vyadhi*. *Acharya Charaka* has mentioned that “*Erand mulam vrishya vata harananam*”, which means castor root is best useful in *Vata* balancing effects and Aphrodisiac (45). *Charakacharya* has mentioned a special class of drugs called *Agreya dravyas*, which states the best of drugs along with its expected action. Out of these best mentioned modalities *Erاندamoola* are the most suitable *Vatahara* drug (45).

Lasunadi Vati

Lasunadi Vati is a tablet, commonly used in disorders of Gastrointestinal tract especially in Indigestion. It is used in Diarrhoea, Dyspepsia and such other Stomach and Intestine related diseases. Garlic is the main ingredient of this medicine. It mainly comprises of *Lasuna* (*Allium sativum*), *Jiraka* (*Cuminum cyminum*), *Saindhava Lavana* (Rock salt), *Shuddha Gandhaka* (Purified Sulphur), *Shunti* (*Zingiber officinale*), *Pippali* (*Piper longum*),

Maricha (*Piper nigrum*), *Hingu* (*Ferula asafoetida*) and *Nimbu swarasa* (*Azadirachta indica*) (46). *Lasuna* is *Kaphaghna* by pungent and *ushna*, *vatashamaka* by *Snigdha*, *Pichchila*, *Guru* and *ushna*, *Raktapitta vardhaka* by *Ushna* and *Tikshna*. Hence it enhances *Agni* (Digestive fire) and prevents from formation of *amavastha*, *Agni Sandushanam* (improves the digestive power). It is an anti-inflammatory, pain killer and removes toxicity. Garlic is used for swelling in rheumatoid arthritis, paralysis, sciatica, facial palsy and pain in the ribs (47).

Palsinuron Capsule

Palsinuron is a remedy for neuro-muscular disorders associated with Central nervous system (CNS) & peripheral nervous system (PNS). It contains *Mahavatvidhwans Rasa*, *Sameerpannaga Rasa*, *Sootshekhara Rasa*, *Ekangveer Rasa*, *Khurasani Owa* (*Hyoscyamusniger*) and *Lajari* (*Mimosa pudica*). *Mahavatvidhwans Rasa* is a generic preparation, which improves metabolism of CNS & PNS, co-ordinates

neuro muscular activity. *Sameerpannaga rasa* Improves tissue oxidation, overcomes Anoxia, normalizes neuro-muscular metabolism. *Ekanageer rasa* Promotes healing of damaged nerves & blood vessels, recanalize blood vessels, activate sensory & motor functions. *Sootshekhara rasa* Provides nutritional support for faster healing of damaged organelles. *Lajari* regenerative effect on neuro-lesions and *Khurasani Owa* checks neuro-irritation. It is also prescribed for Hemiplegia, General Paralysis, Facial Palsy, Hand Shoulder syndrome, Convulsions, Whole Body Stiffness, Neurasthenia, Sciatica, Neuralgia, Cramps in calf, Myalgia & other Neuro-Muscular Problems. It regulates blood supply in affected areas, overcomes anoxia, and stimulates cerebro-neural activity. Besides this it provides nutrition support to nerves & blood vessels enhances metabolic processes in CNS & PNS, activates neuro- muscular communication. It also Promotes curing of damaged nerves & blood vessels, recanalizes blood vessels and provides nutrition support to nerves & blood vessels (48).

Physiotherapy

Physiotherapy can be defined as a treatment method that focuses on the science of movement and helps people to restore, maintain and maximize their physical strength, function, motion and overall well-being. Physiotherapy is done in, throughout the treatment to improve the range of motion of joints and flexibility of muscles. Here the physiotherapy is mainly concentrated to improve the joint integrity, muscle flexibility, attaining the delayed developmental milestones as early as possible. The other benefits are increased circulation to all four limbs and temporary relief of pain. Consider the spasticity the joint mobility and flexibility was attained through the Range of Motion exercises (ROM), passive stretching and peripheral joint mobilization. Here the Proper Ayurvedic management along with speech therapy, physiotherapy, and other rehabilitation measures help the patient to become self-sufficient (12).

Conclusion

The basic aim of Ayurveda is “*swasthasya swasthya Rakshanam Aturasya Vikara Prashamanam*”. Plenty of Disorders have been classified under all the vitiated Tridosha, among them are Nanatmaja Vikaras.

Pakshaghata is a *Vataja Nanatmaja Vyadhi* considered as *Mahavatavyadhi*. All *Acharyas* have emphasized that *Vata* is the predominant *Dosha* in the manifestation of *Pakshaghata*. Hence, it is essential to understand clearly the physiological and pathological aspect of *Vata* and then only appropriate treatment should be initiated. However, in the this study the treatment Protocol was planned according to the *Dosha* and *Sthana Dushti* as per *Acharya Charaka. Sthanika Chikitsa* and *Basti karma* along with *Shamana Aushadhis* and Physiotherapy was administered to the patient according to *Vyadhi Avastha, Rogi Bala* and *Dosha Bala*. This case study demonstrates the successful management of *Pakshaghata* (acute intraparenchymal haemorrhage) using Ayurvedic

treatment. These were used here which gave excellent results to the patient. Physiotherapy was given as an add on treatment helping in releasing the restricted range of movement of limbs. Patient was able to walk independently later. The results were satisfactory and encouraging and this led to improvement in the quality of life of patient. On the basis of this case study it can be concluded that *Panchakarma* treatment along with Physiotherapy was effective in the management of *Pakshaghata*.

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