

A Clinical Study to Evaluate the Combined Efficacy of Virechanottara Nasapana in the Management of Pakshaghata W.S.R to Hemiplegia

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ABSTRACT

Pakshaghata is the major vyadhi of vata dosha. Pakshavadha or pakshaghata is a condition wherein the greatly aggravated vata dosha, invades the shareera dhamani's causing paralysis of one half of the body with pain and loss of speech. It can be compared to cerebrovascular accident /stroke from modern perspective. Here in this study, 30 patients diagnosed as Pakshaghata were subjected to Deepana pachana with trikatu choorna, Snehapana with Granthikadi taila taila, virechana with Tilwaka ghrita followed by nasapana with mashabaladi kwatha nasapana. Statistically significant results were seen in both subjective and objective parameters.

KEYWORDS: Pakshaghata, Hemiplegia, Virechana, Tilwaka ghrita, Nasapana, Mashabaladi kwatha

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INTRODUCTION

Pakshaghata is one among the Vataja nanatmaja Vyadhi¹ and a disease of Madyama rogamarga². The cardinal features of Pakshaghata includes Chestahani either in right or left half of the body, Ruja, Vaksthamba and Hasta pada sankocha³. Signs and Symptoms of Pakshaghata can be correlated to Hemiplegia. Hemiplegia is a condition caused by brain damage or spinal cord injury that leads to paralysis of one side of the body. The most common cause of Hemiplegia is Stroke⁴.

Stroke is an acute neurologic injury occurring as result of vascular pathologic processes which manifest either as brain infarction or haemorrhage⁵. Worldwide, about 20 million people suffer from stroke each year, 5 million will die as a consequence; of those who survive, 5 million are permanently

disabled. Community surveys for Indian population of 'hemiplegia' presumed to be cerebrovascular disease indicate an overall crude prevalence rate of 220 per 1,00,000 persons⁶.

In Western science after complete stroke, management is aimed at minimizing the volume of brain that is irreversibly damaged, preventing complication, reducing the patient's disability and handicap through rehabilitation and reducing the risk of recurrent episodes⁷.

Anticoagulants, Antiplatelets, Thrombolytics, Statins, Antihypertensives are the main line of treatment routine use of these agents may have adverse effects like bleeding disorders, osteoporosis, hypotension, hypersensitivity reaction, arrhythmia, hepatotoxicity, renal damage etc⁸.

“Svedanam snehasamyuktam Pakshaghate virecham” is mentioned as Chikitsa sutra of Pakshaghata⁹. Virechana karma helps to attain Dhatu sthiratva, Shareerika and Manasikabala, Buddhi prasada and Indriyabala which all are debilitated in Pakshaghata¹⁰.

Nasapana is a unique procedure mentioned by Chakrapanidatta for Vata vyadhi in which the medicine is administered through the nostrils. Masha baladikwatha used for Nasapana, is said to be Vatakaphahara, balya, dhatuvardhaka and pushtikara which helps in relieving the symptoms of Pakshaghata¹¹.

Pakshaghata is a condition wherein disability occurs permanently which makes the patient dependent on others. Thus the aim of the study is to check the progression of the disease, to minimize the disability thereby to improve the quality of life.

AIMS AND OBJECTIVES

To evaluate the combined efficacy of Virechanottara Nasapana in the Management of Pakshaghata w.s.r to Hemiplegia.

METHODOLOGY

Minimum of 30 patients with clinical features of Pakshaghata (Hemiplegia) coming under inclusion criteria will be selected irrespective of gender, religion, race, socio-economic status from OPD of Taranath Government Ayurvedic Medical College and Hospital, Ballari.

TREATMENT PROTOCOL:VIRECHANA

Purva karma - Deepana pachana with Trikatu Choorna (1-3gms thrice a day with Ushnajala, Before food) for 3-7 days/ till niraama lakshanas are attained. Snehapana in Arohana krama with Granthikadi taila was given till samyak snigdha lakshanas were attained followed by 3 days sarvanga abhyanga and bashpa sweda.

Pradhana karma - On the day of Virechana, sarvanga abhyanga with murchita tila taila followed by bashpa sweda. Virechana with Tilwaka ghrita 2-4 Tola(24-48 ml) with ushnodaka as anupana is given

Paschat karma -

Samsarjana krama is advised as per the shudhi lakshanas for 3-7 days.

NASAPANA:

Purvakarma	Abhyanga and Nadisweda to Urdhwajatru with Murchita tilataila
Pradhana karma	Nasapana with Mashabaladi kwatha 1pala(48ml)24 ml in each nostril.
Paschat karma	Kavala with Sukoshna lavana jala

DIAGNOSTIC CRITERIA

Individuals will be selected as per the classical Lakshanas of Pakshaghata and also based on signs and symptoms of Hemiplegia of contemporary science.

- Dakshina or vama Paksha Chestanivrutti/akarmanya–(Loss of functions in right or left side of the body)
- Vaksthamba-(Difficulty during speech)
- Achetana(Loss of sensation / Altered sensation)
- Ruja (Different types of pain)
- Sthamba in affected side of the body
- Mukhavakrata

Inclusion criteria :

- Patients presenting with classical lakshanas of Pakshaghata.
- Signs and symptoms of Hemiplegia due to ischaemic stroke.
- Age group between 30 to 60 years.
- GCS 13 and above.
- Patients who are Yogya for Virechana karma and Nasapana.

Exclusion criteria:

- Comatose and unconscious patients.
- Patients with intracranial infections. Patients with uncontrolled Hypertension and Diabetes mellitus.
- Patients with Space occupying lesions of brain such as tumor, degenerative lesions & hemorrhagic stroke.
- IHD, Acute MI & other systemic disorders which interfere with the intervention

Assessment Criteria:

Subjective criteria:

- Chestanivrutti (Loss of function of upper and lower extremities).
- Ruja (Affected part of the body)
- Vakkruchrata.
- Sthamba(Affected part of the body)

Objective criteria:

- Power & tone of muscles.
- Deep tendon Reflexes.
- Co- ordination.
- Gait.

Assessment Criteria:

Subjective criteria:

Chestanivrutti (Loss of function of upper and lower extremities).

- Ruja (Affected part of the body)
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- Sthamba(Affected part of the body)

Objective criteria:

- Higher mental functions.
- Strength, bulk, tone of muscles.

- Deep tendon Reflexes.
- Co- ordination.
- Gait.

OBSERVATIONS

- **Distribution of subjects according to Age group:** - Maximum no of the subjects 20 (66.67%) belong to the age group of 61- 70yrs, followed by 5(16.67%) belong to the age group of 51-60 yrs and 5(16.67%) subjects belong to age group of 40-50yrs.
- **Distribution on the basis of gender:** In this study, maximum numbers of the patients (70%) were males in Comparison with the females (30%).

Table no 1: Distribution of subjects according to Symptoms:

Lakshanas	Number of Patients	Percentage
Karmakshaya	18	60
Karmahani	12	40
Vichetana	9	30
Vaksthamba	10	33.3
Sandhibandhavimoksha	12	40
Ruja	30	100
Supti	23	76.7
Shotha	10	33.3

ASSESSMENT OF TOTAL EFFECT OF INTERVENTION

- **Effect of therapy on parameters (As shown in Table no- 2)**

1. Effect of treatment on cheshtanivrutti:

This is assessed by the following 3 parameters :

Disability, Hand Grip Power & Finger Movements:

In present study 12 subjects(40%) had complete loss of movements & 18 (60%) individuals were presented with varied degree of hemiparesis. Effect of treatment on disability, Hand grip power & finger movements was found statistically highly significant from BT-AF (p value is <0.001). It is been observed that only mild change is noticed in the fine movements & in wrist, meta carpo phalanges and fingers compared to other joints and it is restored very slowly. Virechanakarma, which helps in removing avarana, aids in vatanulomana, does dhatu sthiratva & gives indriyabala. Further increase in improvement is noticed after nasapana. The drugs used in nasapana like bala, eranda, rasna. ashwagandha, kapikachu, masha & katruna are mainly vatakaphahara, nadibalya, shophahara and vedana sthapaka in action, thereby reduces the pain and swelling which inturn improves the range of movement.

Effect of intervention on Ruja:

In the present study 24 subjects had *Ruja* in affected limb. Effect of treatment on *Ruja* was highly significant from BT-AF (p-value <0.001)

Ruja means pain and *Vata* is responsible for any kind of pain. In *Pakshaghata* there is involvement of *Snayu* and *Sira*. *Sushruta Samhita* has mentioned *Shoola* as the clinical manifestation of *Sira* and *Snayugata vata*.

Virechana does srotoshodana, clears the avarana helps in relieving the pain. Snehapana given with granthikadi taila, It has drugs like masha, shunti, rasna which are vedana sthapaka in action, abhyanga done with murchita tila taila, tila taila is having snigha, guru, ushna guna it tackles the ruksha, laghu, sheeta guna of vata, & abhyanga itself vata hara in action. swedana also helps to relive the pain i.e shula vyuparama. Various drugs present in masha baladi kwatha have stimulatory, analgesic, neuro-regenerative, anti inflammatory properties also act as nervine tonic helps in reducing the pain.

Effect of intervention on Vakstambha:

In the present study out of 30 patients 13 were had *Vakstambha*. The statistical analysis on vaksthamba revealed that no apparent changes was observed after the intervention i.e. statistically non-significant with p value 0.157.

This symptom is explained by Charaka. Loss of speech is considered as *Vakstambha*. *Prana vayu* controls the functions of all *Indriya* including *Vak*. *Vakpravrutti* is *Karma* of *Udana vata* which is hampered in case of *Pakshaghata*. *Vak vikrithi* which are explained in the classics are deena, jihma, samutkshipta, kala vak, mukata, minminata, gadgadata & vaksanga. Different varieties of vak vikrithi are observed in pakshaghata. *Vakstambha* may be due to vitiation of udana vayu. *Vakgraha* & *swaragraha* is the feature of kaphavrita udana. Lesions in left half of the brain leads to speech & language disorders like dysarthria, aphasia etc.

The non-significant result obtained may be due to short duration of the intervention. As *Pakshaghata* is one of the chronic debilitating disorder it needs months of regular effort to stimulate the nerves in brain by doing different therapies. It also indicates that specific line of treatment should be adopted to correct the vak vikruti.

Effect Of Intervention On Sthamba:

In the present study out of 30 subjects 26 were presented with sthamba. When the results were analyzed statistically, highly significant results were obtained with p-value <0.001.

Abhyanga with murchita tila taila improves the circulation, relaxes muscle, boost tonicity and Swedana in the form of bashpa sweda is given which reduce the stiffness I.e, Sthamba nigraha, Virechana does srotoshodana, clears the avarana thereby helps in relieving the sthamba, and drugs like rasna, eranda, bala etc., used in nasapana have vata shamaka in action which helps to reduce the stamba

Effect Of Intervention On Power In Upper Limb & Lower Limb:

Statistical analysis revealed that effect of intervention on power in upper limb & lower limb is highly significant with p-value <0.001. This improvement was seen in the patients who were suffering from Karma kshaya, whereas in patients suffering from Karma hani there was less change in power after treatment. Subjects who have history of short duration of onset responded well than who are presented with chronic history. So it can be concluded that Virechanottara nasapana is more beneficial in Karma kshaya than in Karma hani.

This is achieved due to vatashamaka, sthirikara, balya property of murchita tila taila used for abhyanga, mrudu virechana as it removes the avarana, restores the normal function of vata & balya, brimhana, vata kaphara properties of mashabaladi kwatha. Masha is the main ingredient in granthikadi taila which is given for snehapana, and it is also present in mashabaladi kwatha the glutamic acid content of masha is a neurotransmitter which helps in nerve conduction and transmission, aspartic acid increases the size and shape of the muscle.

Effect of treatment on Muscle tone in Upper limb and Lower limb:

Highly significant results (p <0.001) were seen in all patients with regard to muscle tone with 73% relief in upper limb and 74% relief in lower limb.

Abhyanga with murchita tila taila improves the circulation, relaxes muscle, boost tonicity and bashpa sweda reduces the stiffness, Virechana does srotoshodana, clears the avarana helps in relieving the sthamba.

Effect Of Intervention On Deep Tendon Reflexes:

Statistical analysis revealed that effect of intervention on Deep tendon reflexes is highly significant BT-AF with p-value <0.001. Granthikadi taila used for snehapana prepared out of masha kwatha the glutamic acid content of masha is a neurotransmitter which helps in nerve conduction and transmission, aspartic acid increases the size and shape of the muscle. Various drugs present in masha baladi kwatha has neuro stimulatory action which helps in improving the function of the central nervous system.

Effect Of Intervention On Co –Ordination:

Finger nose test: Statistical analysis revealed that there was significant improvement in finger nose test BT-AF with p value <0.014.

Heel shin test: Statistical analysis revealed that there was significant improvement in finger nose test BT-AF with p value <0.005.

Co ordination depends on afferent impulses from the muscles and joints, cerebellar functions and tone of the muscles. Mild improvement in muscle power is noticed after virechana, significant improvement is observed after the administration of nasapana as the drugs in mashabaladi kwatha provides brimhana, nadi balya and vatashamana.

Effect of intervention on Gait:

Highly significant results were seen with regard to gait in all patients with 61% relief (p <0.001). This is achieved due to multiple vata shamaka properties of drugs used in the intervention & combined effect of virechana and nasapana.

RESULT:

Grade	Range	No of Patients	Relief
Good improvement	> 75% to <100% relief	3	10%
Marked improvement	>50% - <75% relief	8	27%
Moderate improvement	>25% - <50% relief	16	53%
Mild improvement	upto 25% relief	3	10%

OVERALL DISCUSSION:

Deepana Pachana is essential and the first step as purvakarma before snehapana, In this study Trikatu churna is used for Deepana and pachana. Pachana helps in pachana of ama where as deepana helps in agni deepana and separation of doshas from dhatus (deepanaih dhaatubhyam pruthaktvam). Trikatu is having katu rasa, ushna laghu ruksha guna, ushna veerya, deepana, kapha vatahara, amahara, medohara. It has its effect on rasadhatwagni and medadhatwagni. Vata kapha dosha predominance is seen in margavaranajanya pakshaghata as trikatu is kapha vata hara it is selected for amapachana here.

Snehana and Swedana as a purvakarma causes aggravation (Vridhhi), increases fluidity (Vishyandana), suppuration (Pakata), removal of the obstruction at the level of srotas. (Srotomukha Vishodhanat) together snehana and sweda brings the dosha from shaka to koshta. (Swedair kostagatatwam). Granthikadi taila is given for snehapana in arohana krama. It is mainly kapha

vatahara, and does lekha, bhedana, amahara, deepana and it is exclusively mentioned for pakshaghata.

Virechana is the prime line of treatment for pakshaghata because it is basically a prana vayu vikara, virechana helps in anulomana of pranavayu which inturn helps to treat pakshaghata.

Tilwaka ghrita is selected for virechana, as mrudu samshodana is mentioned for the management of vatavyadhi & sneha virechana is the line of treatment in pakshaghata *helps to relieve the margavara avarana, caused by kapha, pitta..* Does vatanulomana, dhatu sthiratva & gives indriyabala. In pakshaghata upadhatu of rakta i.e. Sira and Kandara are vitiated. The line of treatment of dhatu is applied to upadhatu so virechana are useful in pakshaghata. After virechana. The drugs used in nasapana like bala, eranda, rasna. ashwagandha, kapikachu, masha & katruna are mainly vatakaphahara, nadibalya, shophahara and vedana sthapaka in action, thereby reduces the pain and swelling which inturn improves the range of movement.

CHEMICAL CONSTITUENTS:

Glutamic acid is an amino acid present in masha which help's in nerve cell conduction, aspartic acid increases the size and strength of muscles, Alpha linolenic acid is an omega-3 essential fatty acid useful in treating the disorders of heart blood vessels and reverse the atherosclerosis condition. Bala drug is having natural phytosterol's which are having the ability to reduce high blood cholesterol level's and betaine content of bala useful in treating high homocysteine level's and boost the immune system. Due to Anti-Inflammatory activity of bala it increases the pain tolerance capacity in pakshaghata patients. The mucinine content present in kapikachu drug is used to treat age related neurological disorders. Ricinine content of Eranda is having laxative effect which is very useful to remove the waste materials from the body. The chemical constituents like triterpenoid, sterols & flavonoids present in rasna has anti oxidant, anti inflammatory, anti hypertension, cholesterol reduction, neuroprotective and cardioprotective action. Alkaloids, steroidal lactones and flavonoids present in ashwagandha has anti inflammatory, anti stress, hypo cholestrolemic, hypoglycemic, cardio protective and tranquilizing activity thus helps in neuro degenerative disorders.

CONCLUSION:

➤ The results obtained showed statistically highly significant on Disability, Hand Grip Power, Finger Movements, Rujha, Stamba, Muscle Power, Muscle Tone, Reflex & Gait. Significant results were seen in co ordination and non significant

results is seen in vakstamba in the management of *Pakshaghata* vis-à-vis hemiplegia.

- Only mild change is noticed in the fine movements & in wrist, meta carpo phalynge and fingers compared to other joints and it is restored very slowly.
- The non-significant result obtained in vak vikruti may be due to short duration of the intervention. As *Pakshaghata* is one of the chronic debilitating disorder it needs months of regular effort to stimulate the nerves in brain by doing different therapies and may be specific line of treatment should be adopted to correct the vak vikruti.
- Though statistically significant results were attained continuous treatment is required for longer duration as the disease causes long standing disability. Even Sushruta Samhitha has mentioned that 3-4 months of unobstructed treatment have to be done in *Pakshaghata*, which is having practical difficulty.
- In this study the combined effect of virechana followed by nasapana showed promising results in acute cases than in chronic one.
- Rightful combination of shodhana, bahya upakramas, shamana oushadi, physiotherapy, diet & counselling together can yield best result in devastating disorder like pakshaghata.

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