

Clinical Study on The Efficacy of Vata Rakshasha Rasa and Carkokta Samsodhana Karma in The Management of Pakshaghata (Hemiplegia)

Parmanand Upadhyay

M.D. (Kay Chikitsa),

Ph.D.(Ayurved)

Associate Professor and
Head

Department of Agada

University College of Ayurved

Dr. S.R. Rajasthan Ayurved

University, Jodhpur

Abstract

Hemiplegia is a highly prevalent disease and can be correlated with *Pakshaghata*, a disease described in *Ayurveda*. In Ayurvedic system of medicine, Vata Rakshasha Rasa and Carkokta Samsodhana karma are used successfully in the management of *Pakshaghata* and mentioned in *Vadas and classical literature*, well known unique texts on traditional medicine. So far, no scientific studies have been performed to evaluate the efficacy of Vata Rakshasha Rasa and Carkokta Samsodhana karma. Fifty patients were selected and randomly divided into two groups. The first group consisted of twenty five patients and treated with only Vata rakshasha rasa in the dose of 250 mg twice a day with honey after meal for two months period, Second group consisted of twenty five patients who were treated firstly by carkokta samsodhana karma and then followed by Vatarakshasha rasa in the dose of 250 mg. as per the schedule of first group, .The response to the treatment was recorded and therapeutic effect was evaluated through symptomatic relief of the patients. In the group of patients treated with the above drugs, statistically significant reduction was observed in symptoms such as Vakstambha(slurring of speech), swallowing difficulties Samkocha, Panigraha, Padagraha, fasciculation of tongue, and mouth deviation. In view of this observation and results obtained in this study, it is concluded that the management done in second group is a very effective in comparison to first group management of *Pakshaghata*, providing speedily and positive effects with a powerful action in controlling symptoms of *Pakshaghata*.

Keywords: Sirohundana.Vatarakshasha rasa, samkocha, Vakstambha, Samsodhana Karma, Hemiplegia., *Pakshaghata*

Introduction

The term *Pakshaghata* literally means paralysis of one half of the body where “*paksha*” denotes the right half of the body or the left half of the body and “*Aghata*” or “paralysis” denotes the impairment of *Karmendriya*, *Gyanendriyas* and *Manas*.

Gyanendriyas are considered as part of the *Sangnavaha srotas* (sensory system) and *Karmendriya* are considered as part of the *Cheshtavaha srotas* (motor system) and *Manas* is supposed to control and guide the both, *Gyanendriya* and *Karmendriyas*. *Pakshaghata* is a *Vatavyadhi* of *Nanatmaja* variety according to *Charaka*

There is more or less sudden paralysis affecting one side of the body; motor, sensory visual or speech functions are affected. The term *paksha* means half of the body and loss of function of *paksha* is seen in *Pakshaghata*. It is mainly a *vata vyadhi* and *pitta* and *kapha doshas* also associate *vata* in the causation of the disease. *Charaka* observes that *sira snayu vishoshana* leads to *pakshaghata*, but *sushruta* notes the involvement of *dhamani* in the pathogenesis of *Pakshaghata*. *Chakrapani* says that without understanding the *prakruti* (physiology) correct knowledge of *vikruti* (pathology) is not possible. The implications of *sira*, *dhamani* and *srotas* are very essential to understand the pathogenesis of *pakshaghata*] *Vata Dosha* gets vitiated due to the indulgence of various diet and regimen then *Dosha* would accumulate in *Rikta Srotas* (vacant channels) in the body and produces *Pakshaghata*. The clinical features are *Vaksanga* (slurring of speech), *Sandhi-Bandha Shaithilya* (weakness of muscles), *Vaktramukhta* (mouth deviation), *Sphoorana of Jihva* (fasciculation of the tongue), *Cheshta Nivruti* (impairment of motor function), and *Chetana nasha* (loss of consciousness).

Pakshaghata can be correlated with hemiplegia. According to the

modern medicine, hemiplegia is a disease with paralysis of one side of the body. The term "hemiplegia" consists of two words "hemi" and "plege". "Hemi" means half and "plege" means a blow, or stroke. Paralysis or palsy literally means to relax, implies a total or partial loss of either motion or sensation or of both in one or more or all parts of the body and also palsy is defined as loss or impairment of voluntary muscular power. Clinical features are described as slurring of speech, mouth deviation, fasciculation of the tongue, swallowing difficulties, abnormal reflexes, and weakness of muscles.

Ayurvedic physicians of India are using Vata Rakshasha Rasa and Carakokta Samsodhana karma which describes management of *Pakshaghata* to purify vitiated *Dosha* and expel vitiated *Dosha* which accumulated in *Srotas*. Vata Rakshasha Rasa and Carakokta Samsodhana karma is one of the Ayurvedic treatment used by Ayurveda physicians with success.

Aims and objectives

In management of *Pakshaghata*, Ayurvedic physicians of India use Vata Rakshasha Rasa and Carakokta Samsodhana karma success. But so far, no scientific studies have been reported on the efficacy of above said drugs. Hence the present study was carried out to scientifically evaluate the efficacy of Vata Rakshasha Rasa and Carakokta Samsodhana karma in *Pakshaghata*.

Materials and Methods

Preparation of Trial drugs

Preparation of Vata rakshasha rasa

The ingredients of vatarakshasha Rasa were collected and prepared as per the direction of Brihata yoga tarangini tarang 90. The 200 g of each ingredient of this preparation were accurately weighed and mixed with Bhavana kwath dravyas as Trikatu kwatha, Ghritakumari swarasa and Punarnavadi kwatha. This finally prepared medicine was preserved in airtight container.

S.N.	Name of the Ingredients	Quantity
1	Parada Bhasma (Rasa Sindura)	200 grms.
2	Vanga Bhasma	200 grms
3	Abhraka Bhasma	200 grms
4	Kant Loha Bhasma	200grms
5	Suddha Hingula	200 grms
6	Tamra Bhasma	200 grms
7	Tankan Bhasma	200 grms
8	Suddha Vatsnabha	200 grms

Carakokta Samsodhana Karma;

The second line of treatment which was administered in the second group was completed followed as per the quotation Losnua Lusgla;qDra i{kk?kkr s fojspue~ of Caraka chikitsa sthana 28/100. At first Pachana drug i.e, Panchkola Churna 3 grams twice a day for three days. Then Sunthi ghrita for the purpose of Snehana was administered with gradually increasing dose 25 ml. per day for four days with the maximum dose of 125 ml. ghrita. Afterwards Abhyanga with Mahanarayana oil and following by Vashpa swedana of Dashamoola kwath for three days. Then on the eighth day after routine abhyanga and swedana 50 m.l. Eranda sneha was administered with leukwarm milk for Virechana. In the last as per

the guidelines of Acharaya caraka Snsarjana karma was carried out.

Selection of patients

Fifty patients fulfilling the inclusion criteria were enrolled in this study. Detailed medical history was taken and physical examination was done in detail according to both modern and Ayurvedic clinical methods. Patients of either sex aged less than 75 years, patients who were associated with clinical features of *Sandhi-Bandha Shaithilya* (weakness of muscles), *Vakstambha* (slurring of speech), *Vaktramukhata* (mouth deviation), *Sphoorana* of *Jihva* (fasciculation of the tongue), swallowing difficulties, Sankocha, Panigriha, Padagriha, Siro-Akshi hundana Chesta nivrti the patients who are suffering from disease were included in this study.

Patients over 75 years of age, patients who were suffering from paraplegia (*Adharangaghata*), monoplegia (*Akangaghata*), quadriplegia (*Sarvangaghata*), and sanyasa avastha janya patients were excluded from this study.

Clinical study

Enrolled patients fulfilling the criteria were randomly divided into two groups. The first group consisted of twenty five patients and treated with Vatarakshasha rasa in the dose of 250 mg with the Anupana of honey as per the schedule as an internal therapy. Second group consisted of twenty five patients and treated with Vata rakshasha rasa and carakokta samsodhana karma as per the planning mentioned above. The parameters of assessment were essentially based on symptomatic relief and were measured by using a graded scale.

Assessment criteria

The assessment was done on the basis of improvement in signs and symptoms. Assessment of the clinical symptoms was done depending on the severity according to the scoring pattern.

Vakstambha (slurring of speech)

Complete <i>vakstambha</i>	-	3
Pronouncing with great efforts	-	2
Pronouncing with less efforts	-	1
Normal speech (whistling)	-	0

Vaktrarmukhta (mouth deviation)

Complete <i>Mukavakrata</i>	-	3
Half <i>Mukavakrata</i>	-	2
Mild <i>Mukavakrata</i>	-	1
Normal	-	0

Sphurana (fasciculation of the tongue)

Constant and/or all over the tongue	-	3
50% of the tongue	-	2
25% of the tongue	-	1
No <i>sphurana</i>	-	0

Bala (muscle power)

Percent	Grade	Lovett Scale
0%	0 Zero	No contraction felt or seen.
12%	1 Trace	Muscle can be felt to tighten but cannot produce movement.
25%	2 Poor	Produces movement with gravity eliminated but cannot function Against gravity.
60%	3 Fair	Can raise the part against gravity.
75%	4 Good	Can raise the part against outside resistance as well as against Gravity.

100% 5 Normal Can overcome a greater amount of resistance than a good muscles.
 S or SS Spasm or sever spasm
 C or CC Contracture or sever Contracture

Muscle tone

Decreased (hypotonia) - 0
 Normal - 1
 Increased (hypertonia) - 2

Reflexes (Grading of the reflexes)

0 Absent Absent of reflex action.
 1 Present As normal ankle reflex action.
 2 Brisk As normal knee reflex action.
 3 Very Brisk More than normal knee reflex action.
 4 Clonus Rapid involuntary alternate muscular contraction and relaxation

Swallowing difficulties

Swallowing liquid only - 3
 Swallowing semi-solid - 2
 Swallowing solid - 1
 Normal - 0

Pani- grah

(Stiffness in Hand movements)
 More than 50% - 3
 25 to 50 % - 2
 1 to 25 % - 1
 Normal - 0

Pad- grah (Stiffness in Leg movements)

More than 50% - 3
 25 to 50 % - 2
 1 to 25 % - 1
 Normal - 0

Toda(Pain)

Excessive pain - 3
 Unbearable pain - 2
 Bearable pain - 1
 Normal - 0

Overall assessment of therapy

Total effect of the therapy was assessed on the following grounds.

Complete remission - More than 75% relief in signs and symptoms
 Marked improvement - Between 51% and 75% improvement in signs and symptoms
 Improved - Between 25% and 50% achievement
 Unchanged - No improvement in signs and symptoms

Statistical analysis

Statistical comparisons were made using *t* paired test, using the statistical standard parameters and *P value* < 0.05 was considered as significant effect.

Observations and Results

In this study, maximum number of patients were belonged to 50-60 years of age group. The 70% patients were vegetarians. According to this study, it was also revealed that 68.75% patients were frequently feeling stress (tension) Pariushita diet including junk food were observed in 62.5%, 56.25% patients were having the history of

aggressive and arrogant, History of dhatukshaya was observed in 50% of patients. 23% excessive thinkers, and 10% were sorrowful persons. In the first group of patients treated with VataRakshasha Rasa in the dose of 250 mg twice a day with honey for two months. In this group of patients statistically significant reduction was observed comparatively lesser in comparison to group second (where Carkokta samsodhana karma was done as an additional procedure) in symptoms such as slurring of speech, swallowing difficulties, fasciculation of tongue, Panigraha, Padagriha. Toda, mouth deviation, Chestanivruti. In patients suffering from slurring of speech, 34% patients were completely relieved and the relief is statistically significant (*P* < 0.05). Here in this first group complete relief was observed in 40.5 % of patients. Sufficient relief was seen in 15.5 % of cases. Whereas there was no change in signs and symptoms of disease in the cases of 44 %. In the second group, 58.2% patients relieved in symptoms like mouth deviation, swallowing difficulties, and fasciculation of tongue, Panigriha, Padagriha, Toda, Chestanivruti the effect was statistically highly significant at the level of *P* < 0.001, The 20.8 % patients partially relieved by the symptoms like weakness of muscles of the arm, forearm, thigh and leg and the relief is less significant at the level of *P* < 0.042 .At the same time 21 % of patients were not relived by this therapy even after the completion of treatment.. Though the slight reduction of exaggeration of the knee jerk and muscle tone were observed, but statistically insignificant.

Group 1

Clinical features	Mean Score		t	P
	BT	AT		
Vakastambha	1.520	2.080	3.93	< 0.005
Swallowing Difficulties	1.498	2.030	3.99	< 0.040
Jihwa sphurana	2.040	0.520	9.27	<0.01
Mukhavakrata	2.038	0.516	9.34	<0.01
Panigraha	2.045	0.522	9.23	<0.01
Padagraha	2.048	0.524	9.28	< 0.01
Toda	2.0046	0.523	9.32	< 0.01
Muscle power of upper limb	1.480	2.078	3.97	< 0.005
Muscle power of lower limb	1.524	2.084	3.88	< 0.005
Exaggerated knee jerk	1.526	2.088	3.73	< 0.005
Exaggerated biceps jerk	2.044	0.524	9.24	<0.01
Muscles tone	1.536	2.89	3.84	< 0.005

Group 2

Clinical features	Mean Score		t	P
	BT	AT		
Vakastambha	1.520	0.780	6.24	< 0.001
Swallowing Difficulties	1.598	0.130	7.99	< 0.001
Jihwa sphurana	2.020	0.510	7.27	<0.001
Mukhavakrata	2.048	0.520	7.54	<0.001
Panigraha	2.045	1.722	6.23	<0.01
Padagraha	2.028	0.514	7.28	< 0.001

Toda	2.040	0.519	6.32	< 0.001
Muscle power of upper limb	1.480	1.038	9.97	< 0.001
Muscle power of lower limb	1.524	0.084	9.88	< 0.001
Exaggerated knee jerk	1.526	2.088	3.73	< 0.005
Exaggerated biceps jerk	2.044	1.924	9.24	<0.01
Muscles tone	1.536	1.089	5.84	< 0.001

Effect of therapy on clinical features (treated group n = 50)

Symptoms	GROUP 1			GROUP 2		
	Completely relieved (%)	Partially relieved (%)	Unchanged (%)	Completely relieved (%)	Partially relieved (%)	Unchanged (%)
Vakastambha	40.5	15.5	44	58.2	20.8	21
Swallowing Difficulties	42.6	14.2	43.2	40.3	18.2	41.5
Jihwa sphurana	38.6	16.2	45.2	50.3	30.5	19.2
Mukhavakrata	32.8	20.2	47	56.4	23.4	20.2
Panigraha	45.2	10.4	44.4	54.5	25.5	20
Padagraha	48.2	15.6	36.2	66.4	20.2	13.4
Toda	42.4	15.4	42.2	60.2	19.3	20.5
Muscle power of upper limb	30.2	26.6	43.2	30.8	34.2	35
Muscle power of lower limb	43.2	12.2	44.6	38	41.5	14.2
Exaggerated knee jerk	25.2	20.4	54.4	48.2	36.4	15.4
Exaggerated biceps jerk	53.2	13.4	33.4	56.5	21.2	22.3
Muscles tone	35	14.8	50.2	60.3	20.2	19.5

Discussion

Hemiplegia is a highly prevalent disease and can be correlated with *Pakshaghata*, a disease described in *Ayurveda*. In Ayurvedic system of medicine, Vata Rakshasha Rasa and Carokta Samsodhana karma are used successfully in the management of *Pakshaghata* and mentioned in well known unique textbook Carak Samhita. on traditional medicine. So far, no scientific studies have been performed to evaluate the efficacy of Vata Rakshasha Rasa and Carokta Samsodhana karma. Fifty patients were selected and randomly divided into two groups. The first group consisted of twenty five patients and treated with only Vata rakshasha rasa in the dose of 250 mg twice a day with honey after meal for two months period. Second group consisted of twenty five patients who were treated firstly by carokta samsodhana karma and then followed by Vatarakshasha rasa in the dose of 250 mg. as per the schedule of first group. The response to the treatment was recorded and therapeutic effect was evaluated through symptomatic relief of the patients. In the group of patients treated with the above drugs, statistically significant reduction was observed in symptoms such as Vakstambha(slurring of speech), swallowing difficulties Samkocho, Panigraha, Padagraha, Chestanivruti, fasciculation of tongue, and mouth deviation. In view of this observation and results obtained in this study, it is concluded that the management done in second group is a very effective in comparison to first group

management of *Pakshaghata*, providing speedily and positive effects with a powerful action in controlling symptoms of *Pakshaghata*.

Activity of *Vata rakshasha rasa* is activated, or catalyzed, or accelerated by combination of Anupana Madhu. Anupana enhances the action of *Vata rakshasha rasa*. The contents of Vatarakshasha rasa have the properties like Aam Pachana, Agni deepana, Anulomana, rasayan, Lekhana, Madhumeha-hara, Srotosangha-hara Hridhya-Nadi balya, and Raktasodhaka. From the probable mode of action of this selected drug it can be discussed that Rasa sindura, Abhraka Bhasma and Hingula are having rasayan and Nadibalya effect. Bangabhasm is having madhumeha-hara effect which is a main etiological factor for the disease pakshaghata. Trikatu kwath is possessing Aampachana and Deepana action of all the three agnies i.e. Jathragni, Dhatvagnis and panchmahabhutagnis thus it clearly and detoxify the body by removing the aam. Ghritakumari Swarasa is repeatedly advocated as One of the best Anulomaka herbal medicine. Vatsanabha is considered by almost achryas as one of the best hridhya drug of Ayurveda, at the same time it is possessing good Deepan and pachana medicinal properties also. Tamrabhasma and Tankana Bhasma are the best Lekhana and srotosanghahara medicines of Ayurveda and these are having Doshaviprita, vyadhi viparita as well as ubhaya Dosha-vyadhi viparita properties at the same time it breakdown the srotodusti i.e. khavaigunya. From the modern point of view it can be considered as good effective and removal medicine for Blood clot, embolism and thrombus. The another ingredients like Kantalauha Bhasma and Punarnava Kwath are Raktaprasadaka as well raktavradhaka and the same time it is also considered as an antihypertensive due to Diuretic property of Punarnava. Especially this preparation breakdown the etiopathogenesis of pakshaghata because of the presence of Rasasindura and Hingula which are considered Nadi balya by acting upon all the three "Marmas" (vital organs) of the body. Specially on the Brain one of the important in three Marmas and it is mainly affected in the *Pakshaghata*.

In Ayurvedic classics, it is mentioned that the *Margavarodha*, *Marmabhighata*, and *Dhatukshaya* lead to the *Pakshaghata*. Further, it is also mentioned the involvement of *Sira Snayu* and *Dhamani* in the pathogenesis of *Pakshaghata*. According to the authentic books, *Avarodha* (obstruction) is usually due to *Kapha* (secretion), or *Aama* (half digested food end product).

Vata rakshasha rasa with honey, the drug used in this study, has the properties of *Vata-Kapha shamaka*, *Amapachaka*, *Srotoshodhaka*; hence these medicines are used in the treatment of *Pakshaghata* by Ayurvedic physicians. The main symptoms produced by affecting *Nadi* and *Vata vaha srotas* are slurring of speech, mouth deviation, fasciculation of tongue, and swallowing difficulties, Padagriha, Panigriha Chestanivruti and Sirohundana showed significant relief after the treatment respectively. Ingredients of *vataRakshasha Rasa* has properties of *Nadi Balakaraka* and *Nadi Uttejaka* (stimulate nerve system). It was observed that the muscle tone and

power of the arms and legs were recovered to some extent after the treatment, but it was statistically significant. Majority of the ingredients of VataRakshasa rasa has the properties of *Srotas Shodhana* (channel purifier) and *Aama Pachana* (to increase digestion). As a result of these properties, vitiated channels become purified when treated with this drug. In this study, treatment was carried for two months only. If this treatment carried on for a longer period, result may be better. In view of these observations and results obtained in this study, it is concluded that Vatarakshasaha rasa and Carakokta samsodhana Karma is better approach in comparison to only Vatarakshasha rasa alone as a internal medicine as given in group second. This combination of second group is very effective Ayurvedic preparation that could be used in management of *Pakshaghata*, providing speedily and positive effects with a powerful action in controlling symptoms of *Pakshaghata*. At the same time it is observed that during this treatment there were nighter complaint by the patient nor seen any side effects as well as during the follow up period also no any after effects were observed.

Conclusion

From this data, it can be concluded that second group has provided better relief in most of the signs and symptoms of the disease. Also better relief was observed in slurring of speech, mouth deviation, fasciculation of tongue, Chestanivruti and swallowing difficulties, at the significant level. It can be suggested that Vata Rakshasha rasa and Carakokta samsodhana karma could provide a better treatment modality in management of *Pakshaghata* (hemiplegia). No adverse effect was found in both groups during clinical study According to the observations and results of this clinical study, it is concluded that Vata Rakshasha rasa and Carakokta samsodhana karma are very effective ayurvedic preparations that could be used in the management of *Pakshaghata* (hemiplegia).

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