

**A COMPARATIVE CLINICAL STUDY ON KAYASEKA AND ABHYANGA WITH NADI SWEDA IN THE MANAGEMENT OF PAKSHAGHATA****Dr. Yogeshwari B.\*<sup>1</sup>, Dr. Channabaswanna M.<sup>2</sup> and Dr. Asharani H.<sup>3</sup>**<sup>1</sup>Associate Professor, Department of Panchakarma,<sup>2</sup>Professor, Department of Panchakarma,<sup>3</sup>Assistant Professor, Department of Panchakarma,

N.K.J. Ayurved Medical College &amp;P.G. Centre, Bidar, Karnataka, India.

**\*Corresponding Author: Dr. Yogeshwari B.**

Associate Professor, Department of Panchakarma, N.K.J. Ayurved Medical College &amp;P.G. Centre, Bidar, Karnataka, India.

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**ABSTRACT**

Health and ailing, pleasure and pain, ease and disease are inborn properties of human life, centuries and centuries succeeded in struggle between man and disease. The infliction of pain, either on mind or body or both is what Vyadhi means. Pakshaghata is one such Vyadhi where mind and body both are inflicted. Pakshaghata may be correlated with the stroke phenomena, where in either left or right side of the body loses its function in different degrees. It is a disease where the vata dosha is predominantly disorganized. Vata vyadhis are considered as dushchikitsya and Pakshaghata is one among the nanatmaja Vatavyadhis and is considered as a maharoga. Here in the present study an attempt is made to evaluate the effect of kayaseka with taila or Abhyanga & nadisweda in Pakshaghata to avoid the risk of disability for longer period and as chronicity of disease increases, vitiated vata having main role in samprapti can be pacified by this treatment.

**KEYWORDS:** Pakshghata, stroke, Kayaseka, Abhyanga, Nadisweda, Bala Taila.**INTRODUCTION**

Ayurveda is a rich storehouse of time tested and effective methods for the treatment of several obstinate and incurable diseases. Ayurveda has its own independent and practicable principles which can never be substituted by other systems of medicines.

An example for this is Panchakarma chikitsa that has drawn the attention of scientist worldwide. The clinical efficacy of Panchakarma procedures deserves appreciation and hence continues to attract the people, physicians and research workers worldwide.

Pakshaghata is amongst the 80 types of Nanatmaja VataVyadhis by all Brihatrayi. Vata Dosha playing vital role in manifestation of Pakshaghata is Sudha Vata Prakopa, Anyadosha Samsrishta Vata prakopa & Dhatu Kshaya VataPrakopa.<sup>[1]</sup> Due to resemblance of signs & symptoms it can be correlated with Hemiplegia according to Modern Science.

Hemiplegia is the most alarming to the spectator, most grievous to the patient & most battling to the physician. It is surprising that no treatment exists that has been conclusively shown reduction in the risk of disability. Despite a massive world wide effort to rectify this disease was perfectly judged by ancient physician.

The problem faced in the treatment of pakshaghata, is not an of adding years to the life but rather adding life to years.

Here in the present study an attempt is made to evaluate the effect of kayaseka with taila or Abhyanga&nadisweda in Pakshaghata to avoid the risk of disability for longer period.

In samanya chikitsa sutra of vatavyadhi snehana & swedana helps to eliminate ditoriation & stiffness of the body as a dry piece of wood could be bent as desire after it's oleation & fomentation.<sup>[2]</sup>

In the present study 30 patients were selected & distributed in 2 equal groups such as –

Group- A: - 15 Patients were treated with Kayseka with Bala Taila

Group- B-15 Patients were treated with Abhyanga & Nadisweda

Follow ups were taken on 14th day & 28th day.

The observations on the effect of these procedures will be studied in scientific manner and those results will be enlighten and presented in scientific and analytical way. This attempt is nothing but studying a sand particle in the

ocean of Ayurveda as Sir Isac Newton said regarding his discoveries in the ocean of science.

### AIMS & OBJECTIVES

- To compare the efficacy of kayaseka & Abhyanga in the management of pakshaghata.

### MATERIAL AND METHODS

#### Clinical Study Design

It is a comparative clinical study. Sample size and grouping 30 patients of pakshaghata will be randomly selected and equally divided into 2 groups.

Group A: 15 patients kayaseka with Balataila for 14 Days.

Group B: 15 patients will receive Abhyanga with Balataila & Nadi Sweda for 14 Days.

Before starting the treatment Gandharvahstadi kashaya is given daily for kostasudhi in both group.

#### Follow Up

follow up in both group in 2 weeks interval i.e. 14<sup>th</sup> day, and 28<sup>th</sup> day of the treatment

#### Follow Up:

There will be two follow up in both group in 2 weeks interval i.e. 14<sup>th</sup> day, and 28<sup>th</sup> day of the treatment.

Sl.No	PROCEDURE	DRUG	DURATION
1	Group A - kayaseka	Balataila	40-45 min for 14 days
2	Group B – Abhyanga swedana	Balataila Nadisweda With Balamoola	40-45 min for 14 days

### SUBJECTIVE PARAMETERS

- Chestanivrutti (motor activity disability)
- Ruja (pain)
- Vakstambha
- Sira snayu vishosha (emaciation)

Time taken for sitting from lying down

Time taken for standing from sitting

Dropping wrist / foot

Handgrip power by using (hand bulb)

sphygmomanometer

Muscle Tone

Muscle Power

### OBJECTIVE PARAMETERS

#### Finger movement

Lifting of arm at shoulder / leg at hip joint

### OBSERVATIONS & RESULT

Sr. No	Symptom	BT Mean ±SE	Follow up	AT Mean± SE	Df	t-value	%	P-value	Remarks
1	Finger movement	3.26±0.15	1	2.6±0.19	14	4.18	20.4	<0.01	HS
			2	1.4±0.21	14	9.72	57.14	<0.01	HS
2	Lifting of arm at shoulder	3.4±0.13	1	2.7±0.15	14	4.18	19.6	<0.01	HS
			2	1.33±0.15	14	11.37	60.78	<0.01	HS
3	Lifting of leg at hip	3.33±0.15	1	2.73±0.15	14	4.58	18	<0.01	HS
			2	1.46±0.16	14	11.29	56	<0.01	HS
4	Time taken to sit from lying position	3.53±0.13	1	2.86±0.16	14	4.18	18.86	<0.01	HS
			2	1.46±0.16	14	13.48	58.49	<0.01	HS
5	Time taken to stand from sitting position	3.46±0.13	1	2.8±0.17	14	3.56	19.23	<0.01	HS
			2	1.4±0.16	14	11.37	59.61	<0.01	HS
6	Muscle Tone	3.4±0.16	1	3±0.16	14	3.05	11.76	<0.01	HS
			2	1.46±0.13	14	8.47	56.86	<0.01	HS

7	Muscle Strength	3.6±0.13	1	2.86±0.16	14	4.78	20.37	<0.01	HS
			2	1.33±0.15	14	10.98	62.96	<0.01	HS
8	Handgrip Power	3.33±0.12	1	2.73±0.11	14	3.15	18	<0.01	HS
			2	1.2±0.14	14	11.11	64	<0.01	HS
9	Drooping of wrist	3.46±0.13	1	2.93±0.15	14	4	15.38	<0.01	HS
			2	1.4±0.16	14	11.37	59.61	<0.01	HS
10	Drooping of Foot	3.46±0.13	1	2.86±0.13	14	3.67	17.3	<0.01	HS
			2	1.33±0.15	14	9.9	61.53	<0.01	HS

**GROUP A: SUBJECTIVE PARAMETERS**

Sr no	Symptom	BT Mean ±SE	Follow up	AT Mean ± SE	Df	t- value	%	p-value	Remarks
1	Pain(Ruja)	3.2±0.17	1	2.6±0.16	14	3.67	18.75	<0.01	HS
			2	1±0.16	14	12.6	68.75	<0.01	HS
2	Vakstambha	3.13±0.19	1	2.6±0.19	14	4	17.02	<0.01	HS
			2	1.2±0.1	14	10.6	61.70	<0.01	HS
3	chestanivrutti	3.4±0.14	1	3±0.09	14	3.05	11.76	<0.01	HS
			2	1.33±0.12	14	17.48	60.78	<0.01	HS
4	Sirasnayu vishosh	3.13±0.16	1	2.8±0.14	14	2.64	10.63	<0.01	HS
			2	1.33±0.12	14	12.43	57.44	<0.01	HS

**OBJECTIVE PARAMETERS**

Sr no	Symptom	BT Mean ±SE	Follow up	AT Mean ± SE	Df	t- value	%	p- value	Remarks
1	Finger movement	3.33±0.15	1	2.73±0.15	14	3.67	18	<0.01	HS
			2	2.06±0.18	14	10.58	39.21	<0.01	HS
2	Lifting of arm at shoulder	3.33±0.12	1	2.86±0.13	14	3.5	14	<0.01	HS
			2	1.8±0.17	14	11.5	46	<0.01	HS
3	Lifting of leg at hip	3.4±0.13	1	3±0.16	14	3.05	11.76	<0.01	HS
			2	2±0.16	14	10.69	41.17	<0.01	HS
4	Timetaken to sit from lying position	3.2±0.17	1	2.86±0.19	14	2.64	10.41	<0.05	S
			2	1.66±0.21	14	9.27	47.91	<0.01	HS
5	Timetaken to stand from sitting position	3.33±0.15	1	3.06±0.18	14	2.25	8	<0.05	S
			2	1.86±0.19	14	7.64	44	<0.01	HS
6	Muscle Tone	3.2±0.14	1	2.86±0.16	14	2.64	10.41	<0.05	S
			2	1.93±0.20	14	10.71	39.58	<0.01	HS
7	Muscle Strength	3.46±0.13	1	3.06±0.11	14	3.05	11.53	<0.01	HS
			2	1.93±0.11	14	11.5	44.23	<0.01	HS
8	Handgrip Power	3.33±0.12	1	2.93±0.11	14	3.05	12	<0.01	HS
			2	1.73±0.118	14	9.79	48	<0.01	HS
9	Drooping of wrist	3.26±0.15	1	3±0.19	14	2.25	8.16	<0.05	S
			2	1.66±0.12	14	12.22	48.97		HS
10	Drooping of Foot	3.4±0.13	1	3.13±0.16	14	2.25	7.84	<0.05	S
			2	1.8±0.10	14	12.22	47.05	<0.01	HS

**GROUP B: SUBJECTIVE PARAMETERS**

Sr.No	Symptom	BT Mean ±SE	Follow up	AT Mean ± SE	Df	t- value	%	p-value	Remarks
1	Ruja	2.86±0.16	1	2.73±0.15	14	1.46	4.65	-	NS
			2	1.53±0.19	14	10.58	46.51	<0.01	HS
2	Vakstambha	3.26±0.15	1	2.93±0.15	14	2.64	10.2	<0.05	S
			2	1.93±0.11	14	7.13	40.81	<0.01	HS
3	chestanivrutti	3.2±0.14	1	2.86±0.16	14	2.64	10.41	<0.05	S
			2	1.6±0.16	14	9.79	50	<0.01	HS
4	Sirasnayu vishosh	2.86±0.16	1	2.66±0.12	14	1.87	6.9	-	NS
			2	1.66±0.15	14	6	41.86	<0.01	HS

## GROUP A V/S GROUP B SUBJECTIVE PARAMETERS

Sr No	Parameters	Follow up	GROUP A Mean±S.E	GROUP B Mean±S.E	d.f	T value	p.value	Remarks
1	Ruja	1	0.6±0.16	0.13±0.09	28	2.49	<0.05	S
		2	2.2±0.17	1.33±0.12	28	4.02	<0.01	HS
2	Vakstambha	1	0.53±0.13	0.33±0.12	28	1.09	-	NS
		2	1.93±0.18	1.33±0.18	28	2.3	<0.05	S
3	Chestanivrutti	1	0.4±0.13	0.33±0.12	28	0.36	-	NS
		2	2.06±0.11	1.6±0.16	28	2.31	<0.05	S
4	Sira Snayu vishosha	1	0.33±0.12	0.2±0.01	28	0.8	-	NS
		2	1.8±0.14	1.2±0.2	28	2.43	<0.05	S

## GROUP A V/S GROUP B OBJECTIVE PARAMETERS

Sr.No	Parameters	Follow up	group a mean±s.e	group b mean±s.e	d.f	T value	p.value	Remarks
1	Finger movement	1	0.66±0.15	0.6±0.16	28	0.292	-	NS
		2	1.8±0.19	1.33±0.12	28	2.32	<0.05	S
2	Lifting of arm at shoulder	1	0.66±0.15	0.46±0.13	28	0.96	-	NS
		2	2.06±0.18	1.53±0.13	28	2.36	<0.05	S
3	Lifting of leg at hip	1	0.6±0.13	0.4±0.13	28	1.08	-	NS
		2	1.86±0.16	1.4±0.13	28	2.21	<0.05	S
4	Timetaken to sit from lying position	1	0.66±0.15	0.33±0.12	28	1.64	-	NS
		2	2.06±0.15	1.53±0.16	28	2.36	<0.05	S
5	Timetaken to stand from sitting	1	0.66±0.18	0.26±0.11	28	1.80	-	NS
		2	2.06±0.18	1.46±0.19	28	2.27	<0.05	S
6	Muscle Tone	1	0.4±0.13	0.33±0.12	28	0.36	-	NS
		2	1.93±0.22	1.26±0.11	28	2.59	<0.05	S
7	Muscle Strength	1	0.73±0.15	0.4±0.13	28	1.65	-	NS
		2	2.26±0.20	1.53±0.13	28	2.98	<0.01	HS
8	Handgrip Power	1	0.6±0.19	0.4±0.13	28	0.86	-	NS
		2	2.13±0.19	1.6±0.16	28	2.11	<0.05	S
9	Drooping of wrist	1	0.53±0.13	0.26±0.11	28	1.49	-	NS
		2	2.06±0.18	1.6±0.13	28	2.08	<0.05	S
10	Drooping of foot	1	0.6±0.16	0.26±0.11	28	1.65	-	NS
		2	2.13±0.21	1.6±0.13	28	2.11	<0.05	S

The overall result of the treatments

Table 54: GROUP A.

Sr.No	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	!t!.value	p.value	Remarks	Efficacy%
1	46.13±1.48	1	38.4±1.29	14	9.43	<0.01	HS	16.76
		2	18.06±0.77	14	26.53	<0.01	HS	60.83

Table 55: GROUP B.

Sr.No	B.T Mean±S.E	Follow up	A.T Mean±S.E	d.f	!t!.value	p.value	Remarks	Efficacy%
1	44.4±1.6	1	39.8±1.21	14	11.5	<0.01	HS	10.36
		2	24.66±0.74	14	25.58	<0.01	HS	44.44

Table 56: GROUP A V/S GROUP B.

Sr.no	Parameters	Follow up	GROUP A Mean±S.E	GROUP B Mean±S.E	d.f	!t!. value	p.value	Remarks
1	Overall	AT	7.72±0.81	4.6±0.4	28	3.43	<0.01	HS
		AF	28.06±1.05	19.73±0.77	28	6.36	<0.01	HS

Both the Kayaseka and Abhyanga with Nadisweda found to be highly significant in all over the subjective & the objective parameters taken for the study.

There is highly significant difference seen in both group comparison soon after treatment and also there is significant seen in both group comparison after follow up. Group A shows better result i.e 60.83% where as Group B shows less results i.e 44.44%. So from all the above assessments it can be said that Group A is better than Group B.

Chikitsa in Ayurvedic terms not only aims at the radical removal of the disease but also guides for the restoration and maintenance of normal health. Snehana swedana is the line of treatment for Pakshaghata.

As Kayaseka with oil is type of snigdha sweda, in present study Kayaseka with Balataila and Abhyanga with NadiSweda had taken for comparison.

### DISCUSSION ON PROCEDURE

Kayaseka is a snigdha sweda in which the warmed oils poured all over the body for stipulated period, in a specific manner. **It has the advantage of producing snehana and svedana simultaneously.**

#### Probable mode of action of Kayaseka

Sushruta explains that out of the four Tiryak Dhamanis, each divides gradually hundred and thousand times and thus become innumerable. These cover the body like network and their openings are attached to Romakupa. Through these only Veerya of abhyanga and Kayaseka enter into the body after undergoing Paka with Bhrajaka Pitta in skin.<sup>[3]</sup>

Vagbhata while explaining the functions of Bhrajaka Pitta narrated that Bhrajaka Pitta is responsible for the Pacana of drugs used in Abhyanga, and Kayaseka.<sup>[4&5]</sup>

The primary barrier to absorption of exogenous substances through the skin is stratum corneum. Rate of absorption is directly proportional to concentration of drug in vehicle, partition co-efficient, diffusion co-efficient and thickness of the stratum corneum.

Absorption depends upon lipid solubility of the drug since the epidermis as a lipid barrier.

The vasodilation due to sweda improves the circulation to the skin and peshi, snayu, kanadara as well as oxidizes the malas located in tissue. This procedure removes the strotavarodha at sthansnsraya i.e. at the affected sira snayu kandaras in pakshaghata, thereby it improves the movement of vyana vata and improves the motor activity of limbs.

Since the procedure Kayaseka is snigdha sweda, it pacifies vata by snehana and ushna guna which is the prime factor in pathogenesis of pakshaghata.

Thus with the above references it can be said that drugs used in Svedana procedure get absorbed through the Romakupa and produce action according to the property of the medicine used.

#### Mode of action Of Abhyanga

Dalhana has explained in detail the absorption of Sneha used in Abhyanga procedure, accordingly the oil used in Abhyanga reaches upto the different dhatu if it is applied for the sufficient time. Hence, it is clear that the drug used in Abhyanga gets absorbed by the skin. Dalhana also mentioned that when snehana drug reaches to the particular dhatu it subsides the diseases of that particular dhatu.

Charaka has also described that Vayu dominates in the Sparshanendriya & its site is Twak. The Abhyanga is exceedingly beneficial to the skin, so one should practice it regularly. Indriya are in close contact with mind hence if Indriyas remains healthy, mind automatically remains healthy. Thus Abhyanga keeps body & mind healthy.

Acharya Sushruta explains that, the tiryak dhamani, each divides gradually hundred & thousand times & thus become innumerable. These cover the body like network & their openings are attached to Roma kupas. Through these only virya of Abhyanga, Parisheka, Avagaha, Alepa enter into the body after undergoing Paka by Bhrajaka Pitta in skin & does their action.

### EFFECT OF THERAPIES ON SUBJECTIVE AND OBJECTIVE PARAMETERS

**Effect on Finger movement:** The effect of therapy was observed 57.14% among the patients of Group-A (Kayaseka) while the patients of Group-B (Abhyanga with Nadi sweda) showed 39.21% improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Lifting of arm at shoulder:** The effect of therapy was observed 60.78% among the patients of Group-A while the patients of Group-B showed 46% improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Lifting of leg at hip:** The effect of therapy was observed 56% among the patients of Group-A while the patients of Group-B showed 41.17% improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Timetaken to sit from lying position:** The effect of therapy was observed 58.49% among the patients of Group-A while the patients of Group-B showed 47.91% improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Timetaken stand from sitting position:** The effect of therapy was observed 59.64% among the patients of Group-A while the patients of Group-B

showed 44 % improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Muscle Tone:** The effect of therapy was observed 56.86% among the patients of Group-A while the patients of Group-B showed 39.58 % improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Muscle Strength:** The effect of therapy was observed 62.96% among the patients of Group-A while the patients of Group-B showed 44.23 % improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Handgrip power:** The effect of therapy was observed 64% among the patients of Group-A while the patients of Group-B showed 48 % improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Drooping of wrist:** The effect of therapy was observed 59.61% among the patients of Group-A while the patients of Group-B showed 48.97% improvement. Both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Drooping of Foot:** The effect of therapy was observed 61.53% among the patients of Group-A while the patients of Group-B showed 47.05% improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Ruja:** The effect of therapy was observed 68.75% among the patients of Group-A while the patients of Group-B showed 46.51% improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Vakstambha:** The effect of therapy was observed 61.7% among the patients of Group-A while the patients of Group-B showed 40.81% improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Chestanirutti:** The effect of therapy was observed 60.78% among the patients of Group-A while the patients of Group-B showed 50% improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

**Effect on Sirasnayu Vishosha:** The effect of therapy was observed 57.44% among the patients of Group-A while the patients of Group-B showed 41.86% improvement. However both the results were statistically highly significant ( $P < 0.01$ ).

In present study reflexes were taken for assessment during case trial there was no an changes in reflexes so, excluded from study.

In present study reflexes were taken for assessment of effect of drug during the case trial but there was no remarkable changes in reflexes hence excluded from study.

### OVERALL EFFECT OF THERAPY

The overall effect of therapy in Group A was 60.83% and in Group B was 44.44%.

However both effects are statically highly significant, group A indicates better result.

### CONCLUSION

In this clinical study the following conclusions were done after observing the data base concept and a scientific discussion.

2. Kayaseka is an effective therapeutic procedure and is considered as snehayukta sweda.
4. Majority of the patients were found addicted to alcohol, smoking.
5. Kayaseka group shows highly significant results on Pakshaghta, on all the symptoms.
6. Abhyanga with Nadisweda group shows highly significant result on all the symptoms.
7. Kayaseka group shows 60.83% result and Abhyanga with Nadi Sweda group shows 44.44%, Hence it is concluded that Kayaseka procedure is shows better result than Abhyanga with Nadi Sweda.
8. Further studies required large scale of the patients and highly equipped Research centers to assess and get better therapeutic effect and for the global acceptance of Ayurvedic therapies.

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