

A CLINICAL STUDY OF *BODHIVRIKSHA KASHAYA* WITH *MADHU* IN THE MANAGEMENT OF *VATARAKTA*

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ABSTRACT

Introduction: *Vatarakta* is one of the main diseases in the present era characterized by severe pain, tenderness, inflammation and burning sensation in the affected joints. It is a *tridoshaja vyadhi*, with *vata pradhanyata* and *rakta* as main *dushya*. Sedentary lifestyle is one of the etiological factors of *Vatarakta*. The aetiology and symptomatology of Gout is very much similar to that of *Vatarakta*. Gout is a pathological reaction of joint or periarticular tissues which results from deposition of monosodium urate, monohydrate crystals in joints and tissues. **Material and Methods:** In *Ayurvedic* classics,

although we find plenty of *dravyas* for joint disorders, the area of joint diseases management still remains to be elusive. Hence the present clinical study aims to evaluate the efficacy of "*bodhivriksha kashaya* with *madhu*" in the management of *Vatarakta* (Gouty arthritis). In the present study, 60 patients fulfilling the diagnostic criteria of *Vatarakta* were selected. 30 patients were under placebo therapy along with *pathya* mentioned in *vatarakta* whereas 30 patients were under interventional therapy along with *pathya*. Detailed profile which incorporated relevant data like symptomatology, physical signs and investigation reports were considered for assessment criteria. "*Bodhivriksha kashaya* with *madhu*" was administered to patients of either sex in the dosage of 50 ml with *madhu* BID before food for 12 weeks (3 months). **Result:** After the course of therapy for 12 weeks, symptomatic improvement was observed with statistically significant results ($P < 0.001$) along with feeling of general wellbeing but not followed by attainment of normal serum uric acid levels. **Discussion:** on the basis of demographic data it was observed that maximum patients were male, Muslims, alcoholic etc. due to their involvement in irregular food habits. From the

present study it can be concluded that the combined effect of *pathya* and “*bodhivriksha kashaya* with *madhu*” showed promising results in the symptomatic relief of *vatarakta*.

KEYWORDS: *Vatarakta, bodhivriksha kashaya, madhu, pathya.*

INTRODUCTION

Ayurveda is a complete science of life, helps human beings in illuminating their path and to live a life through which they will achieve supremacy in physical betterment, social development and moral values. All the defects in the body are caused due to *gramya aahar vihaar* i.e. intake of substandard diet and ingredients of food which are sour, saline, pungent and alkaline, intake of dry vegetables, meat, sesame seeds, germinated seeds, cereals, pulses, freshly harvested corns, ingredients which are mutually contraindicated, addiction to day sleep, alcohol etc. because of the above mentioned factors, the muscles become flabby, joints become vitiated and fats which is accumulated in excess gets liquefied.^[1] Now a days due to limited resources, a highly raised competition, reposeful nature and due to depletion of moral values in livings leads to different types of diseases in the society and *vatarakta* is one of them. *vata* being predominant among the tridoshas^[2] has the potential to cause more serious and long term diseases than the other two. The classical texts lay down ample of importance to the functions and characteristics of *vata*. Also, *rakta* being the foremost body tissue also plays an important role in sustaining the healthy life of the person. *Vatarakta* is an illness where both *vata* and *rakta* are afflicted by distinct etiological factors. “*Vatajam dushtam raktam rudiram yatra*” (*vachaspatyam*) – the disease characterized by the abnormality of *raktadhatu* due to morbidity of *vata dosha* is called as *vatarakta*. The disease which is caused by both, *vata* and *rakta* is called *vata- rakta*. Alternatively, the very attainment of the stage of morbid transformation (*avasthantara-prapti*) of vitiated *vayu* and *rakta* is called *vata rakta*. Generally people of tender health who indulge in sweet food, leisurely eating and sedentary habits gets afflicted by *vata- rakta*. Because of these various vitiating factors *vayu* gets aggravated, being obstructed in its course by the vitiated blood, the excessively aggravated *vayu* vitiates the entire blood. The disease thus, caused is called *vatarakta*.^[3] Similarly *acharya madhav* mentioned when aggravated *vata* is obstructed by aggravated *rakta*, this obstructed *vata* again vitiates the *rakta*. This pathological state is known as *Vatarakta*.^[4] It is also known by synonyms like *khuda*, *vata- balasa* and *adhya vata*. It is called *khuda* because it is more prevalent in the country called *khuda*. *Vata* gets excessively aggravated (*bala*) because of its occlusion by blood for which it is called *vata-balasa*. Since the disease is more

prevalent among rich people (*adhya*) it is also called *adhya vata*.^[5] There are various causes of *vatarakta* as mentioned by various *acharyas* as under:

Aaharaj causes: Maximum *acharyas* mentioned that excessive alkaline, pungent, sour and saline foods are the main cause. Mainly *Aahar* which is dominant in *ushna* and *snigdha guna* causes *vatarakta*.

Vihaaraj causes: Sleeping during day time and remaining awake at night.

Psychological causes: Resorting to anger and many more. The sites where *vatarakta* manifested are hands, feet, fingers, including toes and all joints. In the beginning the hands and feet are afflicted. From base it spreads to all others parts of the body because of the subtle pervasive nature of *vata* and *rakta* because of their fluidity and mobility, they while moving through the vessels, gets obstructed in the joints, which makes them further aggravated. Because of the tortuous nature of the course in the joints, the morbid matter gets lodged there. Being localised in the joints they get further associated with *pitta* etc. and produce different types of pain characterised by the nature of these elements. Therefore in general the disease gives rise to pain in all joints. These different types of pain become excessively unbearable for the afflicted persons.^[6]

Need of the study

In present era *vatarakta* is a burning problem due to change in life style especially in the area of food habits where people are consuming fast foods and alcohol in excess amount the incidence of *vatarakta* are also increasing very fast. According to modern treatment, anti-inflammatory drugs, NSAID's, glucocorticoids are used to treat Gouty Arthritis symptomatically which have many adverse effects particularly in presence of renal insufficiency and gastrointestinal disorders making the disease chronic after prolong usage. Therefore, there is a definite need to explore more efficacious and radical cure to this illness via *ayurveda*. Due to modern civilization, and their food habits, patients of *vatarakta* increasing day by day so for providing balanced and effective treatment devoid of any side effects, present study were conducted and this criteria seems to be fulfilled with *bodhivriksha kashaya* as given in *carak samhita*.

Aims and Objectives

1. To evaluate the efficacy of *bodhivriksha kashaya* with *madhu* in *vatarakta*.
2. To analytically prove that pulses inspite of great source of proteins, their soup can be given in *vatarakta* as per classical text.

MATERIAL AND METHODS

A. Different references were collected regarding *vatarakta*, *madhu*, *bodhivriksha kashaya* from various *Ayurveda* classical texts.

B. Study design

Interventional, randomized clinical trial.

C. Source of patient

60 patients were selected from the O.P.D/ I.P.D of National Institute of Ayurveda, Jaipur.

D. Grouping Of Patients

60 diagnosed patients were selected for clinical trial and were randomly categorized in to two groups of 30 each.

GROUP A: 30 patients of this group were given placebo capsules filled with *laaja churna* in the form of capsules along with *pathyaapathya* as mentioned in *vatarakta* for 3 months.

GROUP B: 50ml *bodhivriksha kashaya* with *madhu* two times a day before meals were given to group B patients for 3 months.

A comparison of symptoms and signs were done before and after 3 months of treatment.

Inclusion and exclusion criteria

Inclusion criteria

1. Patient presenting with classical sign and symptoms of *vatarakta* as mentioned in *Ayurveda* texts.
2. Patients between age group of 16 to 70 years of either sex.

Exclusion criteria

1. Patients associated with metabolic disorders and other systematic diseases.
2. Patients with autoimmune diseases of joints.
3. Patients who are on regular NSAID's and steroidal anti-inflammatory drugs.

Criteria for assessment

In present study, before and after treatment scores were assessed by using “symptoms ranking scale” in this study, patients were assessed after completion or treatment for three months on the basis of subjective and objective criteria.

Subjective criteria

1. *Sandhishula*
2. *Sandhisankoch*
3. *Sandhi kandu*
4. *Sandhishoth*
5. *Sandhi Stabadata*
6. *Sandhi daha*
7. *Sandhi pak*
8. *Sandhi vivernta*

Objective criteria

1. **Blood examination:** TLC, ESR, DLC
2. **Urine examination:** routine as well as microscopic
3. **Serum uric acid**
4. **Ra factor**

Analytical study

In *pathyaapathya* of *vatarakta*, *Charak* mentioned soup of various pulses with *ghee*, although pulses are rich source of proteins due to this fact samples were taken for the analytical study and test performed in laboratory for knowing the percentage of protein present in pulses, in soup of pulses and soup of pulses mixed with *ghee*.

A comparative study were done in two groups before and after giving the treatment and *pathya apathya* as mentioned in *Shastra* and thus a conclusion is made on the basis of result obtained.

RESULTS

The descriptive statistical analysis of the whole sample was divided in to two sections as demographic data and the data related to disease.

Statistical Results related to disease symptoms

Table no. 1: Showing the effect of treatment in signs and symptoms in group A and group B.

S.No.	Symptoms	Complete relief		Partial relief		No relief	
		Group A	Group B	Group A	Group B	Group A	Group B
1.	<i>Sandhi Shool</i>	00	03	33.33	76.66	66.66	20.00
2.	<i>Sandhi Sankoch</i>	00	00	00	66.66	100	33.33
3.	<i>Sandhi Kandū</i>	11.53	63.63	26.92	18.18	61.53	18.18
4.	<i>Sandhi Shotha</i>	00	32.14	33.33	42.85	66.66	25.00
5.	<i>Sandhi Jakrahat</i>	00	11.11	29.63	29.63	70.37	59.25
6.	<i>Sandhi Daaha</i>	00	100	28.57	00	71.42	00
7.	<i>Sandhi Paaka</i>	12.5	100	25.00	00	62.50	00
8.	<i>Rakta and tamra varnata in sandhi</i>	35.71	87.5	7.14	12.5	57.14	00

Table no. 2: Statistical relief of symptoms in group A.

Symptoms	N	Mean		Dif.	% of Change	SD	SE	t	p
		BT	AT						
<i>Sandhishula</i>	30	1.80	1.47	0.33	18.52	0.48	0.09	3.81	<0.05
<i>Sandhisankoch</i>	2	2.00	2.00	0.00	0.00	0.00	0.00	0.00	N.D.
<i>Sandhi kandu</i>	26	1.88	1.42	0.46	24.49	0.65	0.13	3.64	<0.05
<i>Sandhisoth</i>	27	1.74	1.41	0.33	19.15	0.48	0.09	3.61	<0.05
<i>Sandhi Stabadata</i>	27	1.59	1.30	0.30	18.60	0.47	0.09	3.31	<0.05
<i>Sandhi daha</i>	28	1.46	1.18	0.29	19.51	0.46	0.09	3.29	<0.05
<i>Sandhi pak</i>	16	1.31	1.00	0.31	23.81	0.48	0.12	2.61	<0.05
<i>Sandhi vivernta</i>	14	1.14	0.71	0.43	37.50	0.51	0.14	3.12	<0.05

Table no. 3: Statistical relief of symptoms in Group B.

Symptoms	N	Mean		Dif.	% of Change	SD	SE	t	p
		BT	AT						
<i>Sandhishula</i>	30	2.47	1.53	0.93	37.84	0.58	0.11	8.76	<0.001
<i>Sandhisankoch</i>	3	2.00	1.00	1.00	50.00	1.00	0.58	1.73	<0.05
<i>Sandhi kandu</i>	22	1.82	0.50	1.32	72.50	0.89	0.19	6.92	<0.001
<i>Sandhisoth</i>	28	1.71	0.82	0.89	52.08	0.63	0.12	7.51	<0.001
<i>Sandhi Stabadata</i>	27	1.67	1.19	0.48	28.89	0.64	0.12	3.89	<0.05
<i>Sandhi daha</i>	28	1.50	0.00	1.50	100.00	0.64	0.12	12.44	<0.001
<i>Sandhi pak</i>	14	1.57	0.00	1.57	100.00	0.65	0.17	9.10	<0.001
<i>Sandhi vivernta</i>	16	1.25	0.13	1.13	90.00	0.34	0.09	13.17	<0.001

Sandhi shoola

Group A

30 patients were having this symptom at the start of treatment but after 3 months of treatment complete relief were seen in 0 patients (0.00%). Mild relief was seen in 10 patients (33.33%) whereas in 20 patients (66.66%) there was no change in symptoms.

Group B

In this group there was complete relief in 01 patient (3.33%). Partial relief was seen in 23 patients (76.66%), whereas no relief was reported by 06 patients (20.00%).

*Sandhi sankoch***Group A**

At the start of treatment only 02 patients were having this symptom but after 3 months of treatment there was no relief.

Group B

In this group 03 patients were having this symptom, after treatment there was complete relief in 00 patient (0.00%). 02 patients (66.66%) reported partial relief & in 01 patient (33.33%) there was no relief.

*Sandhi kandu***Group A**

At start of treatment 26 patients were having this symptom. After treatment partial improvement is seen in 07 patients (26.92%) & 16 patients (61.53%) patients reported no relief in symptoms.

Group B

In this group 22 patients were having this symptom. After treatment 14 patients (63.63%) reported complete relief, 04 patients (18.18%) reported partial improvement & 04 patients (18.18%) reported no relief.

*Sandhi shotha (swelling)***Group A**

At start of treatment 27 patients reported this symptom. After treatment partial improvement was seen in 09 patients (33.33%) & in 18 patients (66.66%) there was no relief.

Group B

28 patients reported this symptom at the start of treatment. After treatment 09 patients (32.14%) reported complete relief, partial improvement was seen in 12 patients (42.85%) & there was no relief in 07 patients (25.00%).

Sandhi jakdan (stiffness)**Group A**

At the start of treatment 27 patients reported this symptom. After treatment 08 patients (29.63%) reported partial improvement & no relief was seen in 19 patients (70.37%).

Group B

This symptom was seen in 27 patients. After treatment complete relief was seen in 03 patients (11.11%), partial relief was seen in 08 patients (29.63%) & 16 patients (59.25%) reported no relief.

Sandhi dah**Group A**

At the start of treatment 28 patients reported this symptom. After treatment there was partial relief in 08 patients (28.57%) & 20 patients (71.42%) reported no relief.

Group B

At the start of treatment 28 patients reported this symptom. After treatment complete relief was reported in all 28 patients (100.00%).

Sandhi paka**Group A**

There were 16 patients present with this symptom at the start of treatment. After treatment 02 patients (12.50%) reported complete relief, 04 patients (25.00%) reported partial relief & 10 patients (62.50%) reported no symptomatic relief.

Group B

There were 14 patients who reported this symptom & after treatment there was seen complete relief in all patients (100.00%).

Redness of the skin over joint**Group A**

There were 14 patients with this symptom at the start of treatment. After treatment complete relief was reported in 05 patients (35.71%), partial relief was seen in 01 patient (07.14%) & no relief was seen in 08 patients (57.14%).

Group B

There were 16 patients who shown this symptom before treatment. After treatment complete relief was seen in 14 patients (87.50%) & partial relief was seen in 02 patients (12.50%).

So overall, in group B there is marked improvement seen in *Sandhishula*, *sandhikandu*, *sandhishotha*, *sandhi daaha*, *sandhi paka*, *sandhi vivarnata* i.e the results were highly significant.

➤ Complete relief was seen in *daaha* and *paak* =100%

Pathological Results**Table no. 4: Statistical relief in pathological Markers in Group A.**

Pathological Markers	No.	Mean		Dif.	% of Change	SD	SE	T	P
		BT	AT						
ESR	30	17.80	15.37	2.43	13.67	7.69	1.40	1.73	>0.05
TLC	30	8043.33	7563.33	480.00	5.97	1173.97	214.34	2.24	<0.01
Uric Acid	30	5.24	5.10	0.15	2.80	0.83	0.15	0.97	>0.05

Table no. 5: Statistical relief in pathological Markers in Group B.

Pathological Markers	No.	Mean		Dif.	% of Change	SD	SE	T	P
		BT	AT						
ESR	30	27.13	22.60	4.53	16.71	9.75	1.78	2.55	<0.01
TLC	30	7050.00	6535.00	515.00	7.30	1147.20	209.45	2.46	<0.01
Uric Acid	30	5.20	5.07	0.13	2.50	0.69	0.13	1.03	>0.05

Pathological observation

In Group A only mild improvement was seen in T.L.C, E.S.R & Uric Acid. Whereas in Group B there was significant improvement in above said parameters but in Uric Acid there was insignificant improvement.i.e.in group B- ESR and TLC shows significant result. But Uric acid shows non-significant result.

Hence ESR and TLC can bring down to their normal limits by *Bodhivriksha kashaya* and *madhu*.

Result of analytical study of pulses**➤ Laboratory investigation**

After analytical test performed in Amol Pharmaceutical Private Limited, Sitapura, Jaipur results were as under:

Percentage of protein present in *mudaga daal* =24%

Percentage of protein present in *Maash daal*=25%

SAMPLE A: percentage of protein in *Mudaga yusha* (*mudaga* soup) = 3.81%

SAMPLE A₁: percentage of protein in *mudgayusha* mixed with *ghee* = 2.56%

SAMPLE B: percentage of protein in *maasha yusha* = 0.19%

SAMPLE B₂: percentage of protein in *maasha yusha* mixed with *ghee* =0.19%

Hence protein percentage in pulses becomes very low after making their soup and adding ghee in liberal quantity.

DISCUSSION AND OBSERVATION

➤ Aetiological observation

Selected patients were maximum lie in between age group of 41-50 years; male patients were more than females. It was also noticed that Muslims, high pay grade job persons, married, non-vegetarian patients were more. It was seen that maximum patients were tea and alcohol addicted. Maximum patients were of *vata* and *pitta prakriti* and patients of *vatarakta* were observed in rainy and autumn season.

Demographic data

Table no. 6: Distribution according to age.

S.no.	Age	No. Of patients		Total patients	percentage
		Group A	Group B		
1.	11-20	00	01	01	02
2.	21-30	01	02	03	05
3.	31-40	05	05	10	17
4.	41-50	12	14	26	43
5.	51-60	08	06	14	23
6.	61-70	04	02	06	10
	Total	30	30	60	100

On observation of demographic data: it was found that maximum patients were between the age group 41-50 years i.e. 43% which suggest that *Madhya awastha* of life is more prone to suffer from *vata rakta* due to *pitta adhikyata* in this age group and due to increased *pittaja aahar vihaar*.

Table no 7: Distribution according to sex.

S.no.	Sex	No. Of patients		Total patients	Percentage
		Group A	Group B		
1.	Male	18	20	38	63.33
2.	Female	12	10	22	36.66
	Total	30	30	60	100

- Incidence of Male patients were obtained higher, this may be due to they are more addicted towards drinking, smoking etc.

Table no. 8: Distribution according to religion.

S.no.	Religion	No. Of patients		Total patients	Percentage
		Group A	Group B		
1.	Hindu	12	14	26	43.43
2.	Muslim	18	16	34	56.67
	Total	30	30	60	100

- Among 60 patients, 26 were hindu and 34 were muslims and Incidence of *vatarakta* was seen higher in Muslim community in present study. This was because routinely they use to take non vegetarian diet which is also a source of protein.

Table no 9: Distribution according to socio economic data.

S.no.	Socio economic status	No. Of patients		Total patients	Percentage
		Group A	Group B		
1.	High class (20000 or more than 20000)	15	17	32	53.33
2.	Medium class (10000 to 20000)	11	09	20	33.33
3.	Low class (less than 10,000)	04	04	08	13.33
	Total	30	30	60	100

- Most of the cases i.e. 53.33% were from high pay grade may be due to their sedentary life style.

Table no. 10: Distribution according to prakriti.

S.no.	Prakriti	No. Of patients		Total patients	Percentage
		Group A	Group B		
1.	<i>Vatapitta</i>	16	22	38	63.33
2.	<i>Vatakapha</i>	10	05	15	25.00
3.	<i>Pittakapha</i>	04	03	07	11.66
	Total	30	30	60	100

- Among selected 60 patients, 38(63.33%) were of *vata pitta prakriti*. Higher incidence were seen in *vata-pitta prakriti* because there is a direct correlation of *vata rakta* with this specific *prakriti*.

Table no. 10: Distribution of patients according to season.

S.no.	Season	Month	No. Of patients		Total patients	Percentage
			Group A	Group B		
1.	<i>Sishir</i>	January	01	01	02	03.33
	1	February	00	01	01	01.66
2.	<i>Vasant</i>	March	00	02	02	03.33
	2	April	03	01	04	06.66
3.	<i>Grishama</i>	May	03	02	05	08.33
	3	June	02	03	05	08.33
4.	<i>Varsha</i>	July	01	03	04	03.33
	4	August	09	06	15	25.00
5.	<i>Sharad</i>	September	07	07	14	23.33
	5	October	02	02	04	06.66
6.	<i>Hemant</i>	November	00	02	02	03.33
	6	December	02	00	02	01.66
Total			30	30	60	100

- Maximum patients were come in august and September i.e. in *varsha ritu* and *sharad ritu*. This may be due to *prakopa* of *vata* in *varsha ritu* and *prakopa* of *pitta* in *sharad ritu* which also vitiates *rakta* in this *ritu* naturally and for this particular reason patient come in this specific season.

➤ Discussion on probable mode of action of drug

- Due to *pichil* and *madhur guna* of *madhu*, *vaat* gets alleviated and its *kashaya guna* is responsible for *raktaprasadan*.
- *Kashaya rasa* of *bodhivriksha* is responsible for *rakta prasadan* and remove scars.
- *Bodhivriksha* and *madhu* both have qualities of *ropana*, *varnya*, *dahshaman* as a result of which swelling, redness, pain in joints and discoloration of skin subsides.

CONCLUSION

On the basis of entire study conducted, the following points are selected that should be concluded:

- A comparison can be made between *vatarakta* and gouty arthritis
- Main causes were *vata prakopak* and *rakta prakopak*
- Economically good, obese, tender, alcoholic patients were more.
- Due to *kashaya rasa* of *bodhivriksha* which imparts *rakta shodhka*, *vraha ropaka*, qualities, it helps in relieving pain, burning sensation, *paak* and discoloration.

- *Bodhivriksha kashya* not bring down uric acid so it is not a medicine of uric acid but as it is *kashaya* in *rasa* it provides relieve in *sandhishool*, *sandhi shopha*, *vrana vivarnata* like symptoms.
- *Bodhivriksha kashya with madhu* decreases TLC and ESR.
- No side effects seen of intervention in present study.
- Pulses are contraindicated but soup of pulses can be given to *vata rakta* patients as it was analytically proved by the study
- In conclusion there is a significant relieved in subjective parameters but not much significant result seen in objective parameters except in TLC and ESR.
- Group A shows 32.67% relief whereas Group B shows 66.41% relief i.e. relief were seen in both groups but Group B shows more significant result than Group A.
- Group A shows positive result inspite of giving placebo, may be due to psychological factors. Moreover *pathya* known as *mahaaushada* also given along with *pathya*.
- In Group A, *pathya* shows significant affect on *sandhishool*, *sandhi shopha*, *kandu* etc. so by using *pathya* relieve in symptoms to some extent can be seen .
- In Group B, *pathya* along *Bodhivriksha kashya* and *madhu* shows highly significant result hence it should be used to give symptomatic relief to patient.

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