A CLINICAL STUDY TO EVALUATE THE THERAPEUTIC EFFECT OF VATARAKTANTAK RASA AND LEKHANA BASTI IN VATARAKTA

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ABSTRACT

There is a definite need to study vatarakta (Gout) as peripheral arterial disease and its management with both sodhana (Purification) and samana (reducing) treatment, with the due consideration of its severity, chronicity as well as possible complications. This study is planned to evaluate the therapeutic effect of Vataraktantakarasa and Lekhana basti (Scraping agent or ayurvedic drugs used for enema) in patients suffering from Vatarakta. Design: Single blind clinical study with a pre-test and post-test design. Source of the data: 20 patients of vatarakta who attended the O.P.D. and I.P.D. of S.D.M. Ayurveda Hospital, Kuthpady, Udupi, Karnataka. Intervention: Patients were subjected to 16 days course of lekhana basti along with oral medication with vataraktantaka rasa in a dose of 250mg tid for 30 days Observations: Out of 20 patients of Vatarakta studied in this work. All the patients had the Dvandvaja praktiti (Two types of Prakrutis like Vatapittaj,Vatakaphaj etc.). Results: Statistically significant improvement was observed in all the criteria of assessment that included regards to pain, burning sensation, malaise and disturbance of sleep, tenderness, walking ability, peripheral pulses and lipid profile. Conclusion: The combination of lekhana basti and vataraktantaka rasa is an ideal regimen in patients suffering from raktamargavarana janya vataraktaa (Obstruction for blood causes Vatarakta)

Key Words: Vatarakta, margavarana, raktavahasrotas, ILD, PVD

INTRODUCTION

Vatarakta comes under the domain of *Vatavyadi* [1] (Nervous disorders) and mostly affecting the extremities [2]. The umbrella of *vatarakta* in parlance with conventional medicine includes many conditions related to extremities and to mention a few are connective tissue disorders as well as peripheral vascular disorders. In the literature it is emphasized that the etiological factors leads to the predominant morbidity of *vata dosa* and *rakta dhatu* (Blood tissue) and hence the name *vatarakta*. To be more specific, the obstruction of *raktamarga* or *raktavaha srotas* (Circulatory system) is the leading pathology [3].

Two distinct modes of etiopathogenesis of *vatarakta* are elaborated in the literature. The specific etiological factors of *vata dosa* and *rakta dhatu* separately leading to the morbidity of the same with the involvement of *raktamarga* (Circulatory system) is about the first clinical variety of *vatarakta* [4]. The etiopathogenesis of second clinical variety is different from this. In the second clinical type instead of etiological factors of *vata* and *rakta,* it is

the etiology of *kapha*(Mucus) and *medas*(Fat) that initiates the illness. The etiological factors of *kapha* and *medas* obviously lead to the morbidity of the same. This abnormally increased *kapha* and *medas* in turn gets accumulated in the *rakta marga* causing the provocation of *vata* as well as *rakta* [5] (Blood). Dietary habits and life style modalities plays a major role in the causation of *vata rakta*. Also the morbidity of *kapha* and *medas* can cause different other serious diseases in different systems. *Prameha* (Diabetes), Sonitadust(Impure blood disorder)*,* hrdroga(Cardiac problem) and *vatavyadhi* etc all are found to be due to incriminatory affect of *kapha* and *medas* in respective systems[6]. Hence forth the concept of *margavarana* (Obstructed path) in different parts of the body is emphasized in *Caraka samhita*. The pathology of *margavarana* leads to the establishment of clinical signs and symptoms in *vatarakta*. Further to add, *sodhana, samana, bahiparimarjana* and *rasayana cikitsa* all are aimed at the rectification of *margavarna* in this disease[7]. The whole concept of *margavarana* can be best explained by the pathology of atherosclerosis and peripheral vascular disease in modern parlance. Peripheral vascular diseases include arterial, venous as well as lymphatic disease, and the illness has a long lingering course. Inadaquate treatment or failure of treatment may lead to fatal complications. Further to add, obstructive arterial diseases are named after the anatomical structure affected as coronary artery disease, cerebrovascular disorders and Ischemic limb diseases etc.

OBJECTIVES OF STUDY:

1. To carry out literary study on *vatarakta* as well as the role of *kapha*
   and *medas* in its causation of *vatarakta*
2. To evaluate the therapeutic effect of *Vataraktantakarasa* and *Lekhana basti* in *Vatarakta.*

MATERIALS AND METHODS:

Source of the data: The patients who attended the O.P.D. and I.P.D. of S.D.M. Ayurveda Hospital, Kuthpady, Udupi, Karnataka, during the period of November 2005 to August 2006, having the signs and symptoms of *Vatarakta* were screened.

Inclusion criteria

- 20 patients taken in this clinical trial .
- The patients of Vatarakta clinically diagnosed and confirmed by investigations.
- The patients between ages of 16 to 70 years were included in study.
- Patients were randomly selected irrespective of sex, occupation, caste, etc.

Exclusion criteria: The patients suffering from Vatarakta showing the presence of following
criteria were excluded from the study.

- The patients with severe toxicity
- Progressive gangrenous changes in vicinity are excluded from study.
- Diseases of immunological basis and syphilis are excluded.

Investigations

Following are the list of investigations carried out in 20 patients of Vatarakta taken for this study. Hb %,TC, DC, ESR, RBS, Liver function test, Blood urea, serum creatinin, Lipid Profile, Arterial Doppler Ultra sound, Arteriography.

Design: It is a single blind clinical study with a pre-test and post-test design. In this study 20 patients diagnosed as *Vatarakta* of either sex were subjected to clinical study.

Intervention: The selected patients were administered with

1) *Lekhana Basti* as *kaala basti* course of 16 days, in which *Niruha Basti* is administered in a dose of 480 ml for 6 days by using the enema can. In this basti course 10 sittings of *Anuvasana basti* was also administered with *Shatapaka madhukataila* in a dose of 120ml. *Anuvasana basti* was given by using Plastic syringe.

2) In conjunction with basti treatment the patient was also treated orally with *Vataraktantaka Rasa* in the Dose of 250 mg tid. This oral medication was continued for 30 days with the *anupana* of warm water.

Duration of study: 30 days

Assessment criteria: The state of the disease *Vatarakta* changes after the intervention. Improvement or otherwise was determined by adopting the standard methods of scoring for subjective, objective and special investigation criteria. The *Margavarana* was assessed both before and after the intervention to note any change by using the arterial Doppler study. Lipid profile was also studied before and after the treatment.

Assessment of overall effect : As per the reduction in the total scores of the assessment parameters, the overall effect is calculated as follow-

Complete remission - total score is 0 after the treatment Marked improvement – reduction in the mean symptom score by 75to 99% from the initial score.

Moderate remission - reduction in the mean symptom score by 50 to 74%
Average remission - reduction in the mean symptom score by 25 to 49%
Unchanged - reduction in the mean symptom score by < 24 % from the initial score.
Effect of Treatment in *Vatrakta*-
Effect on Pain: Patients treated with *Vataraktantakarasa* and *Lekhana basti* had marked remission of the symptom pain. 1.8 was the mean initial score of pain in 20 patients of *Vatarakta* which came down to 1.0 after the treatment. The improvement to the tune of 44.44% is found to be statistically highly significant ($P \le 0.001$) as shown in the Table No.1.

Table No.1: Effect of treatment on Pain

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
1.800	1.000	0.800	44.4	0.410	0.0918	t= 8.718	P=<0.001

FFECT ON BURNING SENSATION: Burning sensation one of the cardinal symptoms of *Vatarakta* relieved by 57.14% as the initial score of Burning sensation which was 0.700 reduced to 0.300 after the treatment with *Vataraktantakarasa* and *Lekhana basti*. This improvement when analyzed by the paired 't' test found to the significant (P=0.008) as shown in the Table No. 2

Table No.2: Effect of treatment on Burning sensation

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.700	0.300	0.400	57.14	0.598	0.134	t = 2.990	P= 0.008

EFFECT ON MALAISE: 78.57% of improvement was observed in the symptom Malaise. 0.700 was the initial mean score of Malaise recorded in the 20 patients of *Vatarakta* . This was brought down to 0.150 after the administration of *Vataraktantaka rasa* and *Lekhana Basti*. This improvement after the treatment is found to be highly significant ($P \le 0.001$) as per the paired 't' test. The details of the different statistical values are shown in the Table No.3

Table No.3: Effect of treatment on Malaise

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.700	0.150	0.550	78.57	0.510	0.114	t = 4.819	P= 0.001

EFFECT ON DISTURBANCE OF SLEEP:

0.650 was the mean initial score of disturbance of Sleep before the treatment in

patients of *Vatarakta*. This initial mean score came down to 0.0500 after the treatment. The improvement to the tune of 92.30 % was highly significant (P≤0.001)

as revealed by the paired't' test. Details of the same are given in the Table No.4

Table No.4: Effect of treatment on disturbance of Sleep

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.650	0.0500	0.600	92.30	0.503	0.112	t = 5.339	P = ≤0.001

EFFECT ON TENDERNESS:
Tenderness is another symptom of *Vatarakta*. The initial mean score of the patients in tenderness was 0.100 which was reduced to 0.00 after the treatment. The improvement to the tune of 100% was rec-

orded, is statistically significant. Details of the same are represented in the Table No.5.

Table No.5 comparison of effect on Tenderness

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.1000	0.000	0.1000	100	0.308	0.0688	t = 1.453	P = 0.163

EFFECT ON EDEMA: Before the treatment the mean score of symptom of Edema was 0.350. After the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was reduced to 0.0500 giving 85.71% effect. The change that occurred with the treatment is greater than would be ex-

pected by chance; there is a statistically significant change (P = 0.010) as assessed by the paired't' test.

The details of the same are given in the Table No.6.

Table No.6 Effect of treatment on Edema

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.350	0.0500	0.300	85.71	0.470	0.105	t = 2.854	P = 0.010

EFFECT ON LOCAL COLOUR CHANGES: Patients treated with *Vataraktantak rasa* and *Lekhana Basti* had no difference in Local color changes. 0.200 was the mean initial score in 20 patients of

Vatarakta which remained as 0.200 after the treatment.

Table No.7 Effect of treatment on Local colour changes

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
0.200	0.200	0.000	0	-	-	-	-

EFFECT ON WALKING ABILITY: 47.22% of improvement was observed in the score of walking ability. 1.8 was the initial mean score recorded in the 20 patients of *Vatarakta* This was brought down to 0.950 after the administration of *Vatarakta* and *Lekhana Basti* This improvement after the treatment is found to be highly significant (P≤0.001) as per

the paired 't' test. The details of the different statistical values are shown in the Table No.8.

Table No.8: Effect of treatment on walking ability

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
1.800	0.950	0.850	47.22	0.366	0.0819	t = 10.376	P = ≤0.001

EFFECT ON PERIPHERAL PULSES: 1.5 was the mean initial score of Peripheral pulses before the treatment in patients of *Vatarakta* This initial mean score came down to 1.05 after the treatment. The improvement to the tune of 30 % was significant (P=<0.010) as revealed by the paired 't' test.

Details of the same are given in the Table No.9

Table No.9: comparison of effect on Peripheral pulses

Mean Score		Difference in means	%	Paired 't' test			
BT	AT			S.D	S.E.M.	t value	P value
1.500	1.050	0.450	30	0.510	0.114	t = 3.943	P = <0.001

EFFECT ON TOTAL CHOLESTEROL: Before the treatment the mean total Cholesterols was 274.950 after the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was reduced to 224.00. This improvement after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same is given in the Table No. 10

Table No.10: Effect of treatment on total Cholesterols

Mean Score		Difference in means	Paired 't' test			
BT	AT		S.D	S.E.M.	t value	P value
274.950	224.00	50.950	21.36	4.776	t = 10.667	P = <0.001

EFFECT ON TRIGLYCERIDE: Before the treatment the mean Triglyceride was 247.100 After the treatment with *Vataraktantak rasa* and *Lekhana Basti* is was reduced to 196.40. This improvement after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same is given in the Table No. 11

Table No.11: Effect of treatment on Triglyceride

Mean Score		Difference in means	Paired 't' test			
BT	AT		S.D	S.E.M.	t value	P value
247.100	196.400	50.700	36.319	8.121	t = 6.243	P = <0.001

EFFECT ON HDL CHOLESTEROL: Before the treatment the mean HDL Cholesterol was 39.850 after the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was increased to 44.500. This increase after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same is given in the Table No. 12

Table No.12 Effect of treatment on HDL-Cholesterol

Mean Score		Difference	Paired 't' test			

BT	AT	in means	S.D	S.E.M.	t value	P value
39.850	44.500	4.650	4.705	1.052	t = -4.420	P = <0.001

EFFECT ON LDL CHOLESTEROL:
Before the treatment the mean LDL Cholesterols was 169.200 After the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was reduced to 134.650 This increase after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same are given in the Table No. 13

Table No.13: Effect of treatment on LDL Cholesterols

Mean Score		Difference	Paired 't' test			
BT	AT		S.D	S.E.M.	t value	P value
169.200	134.650	34.550	30.346	6.786	t = 5.092	P = <0.001

EFFECT ON VLDL CHOLESTEROL:
Before the treatment the mean VLDL Cholesterols was 43.550 After the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was reduced to 33.450 This decrease in values after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same are given in the Table No. 14

Table No.14: Effect of treatment on VLDL Cholesterols

Mean Score		Difference in means				Paired 't' test
BT	AT		S.D	S.E.M.	t value	P value
43.550	33.450	10.100	9.414	2.105	t = 4.798	P = <0.001

EFFECT ON LDL: HDL:
Before the treatment the mean LDL: HDL was 4.245 after the treatment with *Vataraktantak rasa* and *Lekhana Basti* this was reduced to 3.150. This improvement after the treatment was found to be statistically highly significant (P<0.001) as assessed by the paired 't' test. The details of the same are given in the Table No. 15

Table No.15: Effect of treatment on LDL: HDL

Mean Score		Difference in means	Paired 't' test			
BT	AT		S.D	S.E.M.	t value	P value
4.245	3.150	1.095	0.624	0.139	t = 7.852	P = <0.001

DISCUSSION:
After the completion of the 1 month course of treatment in *Vatarakta* the overall assessment of the patients were made as discussed in the assessment criteria. The analysis revealed that no patient had complete relief from the signs and symptoms of *vatarakta* Moderate remission of the signs and symptoms was seen in 90% of the patients treated with *Vataraktantaka rasa* and *Lekhana basti* . No patient showed marked improvement. One patient after treatment showed 40 % remission of the symptoms which comes under average remission category. Another one patient after treatment showed 20 % remission from the signs and symptoms of *vatarakta* which considered as unchanged category. All the 20 patients taken for the study had some or the other form of improvement in the symptoms of *Vatarakta*.

CONCLUSION

Results showed that there is definite reduction in the bad cholesterol and increase in the good cholesterol following the treatment. These changes establish the efficacy of *lekhana basti* and *vataraktantaka rasa* in preventing the progression of *margavarana* as well as the illness vatarakta. The marginal improvement in the circulation following medication with *lekhana basti* and *vaatarakantaka rasa* confirms the effect of medicine on reducing the *margavarana*. Reduction in pain burning sensation etc proves the reduction in the morbidity of *vata dosa* following the medication. The combination of *shodhana* treatment in the form of *lekhana basti* and *shamana* treatment in the form of *vataraktantaka rasa* is an ideal regimen in patient's sufferirng from *raktamargavarana janya vataraktaa*.

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