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A STUDY ON THE EFFECT OF *LEKHAN– VASTI* IN CASES OF ESSENTIAL HYPERTENSION AND ISCHAEMIC HEART DISEASE

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*A Lekhan – Vasti formulated with the prominent Lekhan drug 'Vaca' (**Acorus calamus Linn.**) was tried in 35 cases of essential hypertension and Ischaemic heart disease. The Vasti therapy produced notable alterations in blood pressure, pulse rate and lipid profile pattern of the patients receiving Lekhan – Vasti treatment.*

Introduction

Cardiovascular diseases are the most common cause of death in developed as well as developing countries. The number of cardiovascular ailments is rising due to altered life style in modern times. Hypertension and Ischaemic heart disease (IHD) are among the most common cardiovascular disorders warranting long term care and secondary prevention. A number of Ayurvedic drugs and measures have been studied recently for their cardioprotective role with encouraging results. The present study aims to investigate the scope of *Samsodhana* therapy i.e. biopurification therapy of Ayurveda in the secondary prevention and treatment of hypertension and IHD.

Panchakarma therapy is the most important component of Ayurvedic therapeutics. This unique therapy is claimed to strike at the very root of a disease and eliminates the possibility of its recurrence, while disease treated by *Samana* therapy might recur. *Panchakarma* therapy essentially purifies the milieu interior and affords self

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recovery and rejuvenation. Sharma *et al* 1993, through an emperical study emphasized that *Panchakarma* procedures are highly effective in the prevention and management of cardiovascular risk factors.Ranasingha S.G. (1989) in an other study, claimed efficacy of *lekhaniya* group of drugs in lipidemias and heart diseases. Simultaneously Mamgain and Singh (1994) also reported significant hypolipidemic and cardioprotective effect of the *Lekhana* drug *Vaca* in a series of patients of essential hypertension and IHD. In view of the above, the present study was launched to examine the effect of a standard *Lekhana- Vasti* in a series of patients.

Materials and Methods

35 patients of mild to moderate hypertension and IHD (Not prone to myocardial infraction) were selected from OPD and IPD of *Kayachikitsa* services of S.S. Hospital, Banaras Hindu University, Varanasi.

Criteria for Selection of Patients

EXCLUSION	INCLUSION
Patients	Patients
-With severe grade -of hypertension	- With persistant rise in blood pressure
-Prone to -myocardial -infraction	- With clinical picture of essential hypertension and IHD.
Patients -With severe illness like CHF, renal failure, heart block or hepatic failure	Patients - Having hypertension and IHD induced changes in ECG.

After diagnosis by standard clinical investigative methods, thorough examination was also carried out to assess the vitiated *Dosas*, *Dusyas* and *Srotas* involved and the *Nidanas*. *Dasavidha Pariksa* was also conducted to ascertain the total state of patients.

Investigation

-Routine investigation to rule out any other associated illness.

-Chest X-ray (P-A view)

-ECG

-Lipid profile

-Neurohumoral studies by estimating the rate of urinary excretion of VMA and 5-HIAA.

After diagnosis and basal assessment patients were subjected to a short selective *Panchakarma* therapy of two weeks duration, once every three months for one year as per following schedule viz. *Snehana* with *Swedana* (*Sarvanga* type) for 3 consecutive days followed by *Lekhan Vasti* - For 8 consecutive days.

For external *Snehana*, *Mahanarayana Taila* was used as *Abhyanga* followed by *Sarvanga Washpa Sweda*. For therapeutic *Vasti*, one of the most popular *Lekhaniya* drug *Vaca* (***Acorus calamus*** Linn.) was used in the form of decoction. Each *Vasti* consisted of 80 ml. of decoction, further

added with 20 ml. of *Mahanarayana Taila*. *Vasti* was administered to the patient in standard *Vasti* position, after few minutes of relaxation. After administering *Vasti*, the patient was asked to remain in the same position for 30 minutes and subsequently was shifted to the ward and kept under close observation till the period of retention time. The same procedure was repeated everyday, taking full asceptic precautions during *Vastikarma*.

Observation and Results

A total of 35 patients of essential hypertension and IHD have been treated on above lines under this programme. The relevant data in respect of demographic and clinical profile were recorded and in each case evaluated. Some of the observations are exihibited in following tables. Demographic and clinical profile was recorded with a view to define the type of patients selected for present study.

Maximum number of patients were found in 31-60 years of age group and males predominated over the females in present series.

Prakrti was assessed on the basis of characteristics given in ancient texts and further developed by Singh and Singh, 1977. Maximum number of cases belonged to *Vatakaphaja Prakrti* in the present series.

Response of Treatment

In order to evaluate the effect of *Lakhan-Vasti* in patients of essential hypertension and IHD, the assessment of results has been done on following parameters:

Table - I

Showing age and sex incidence in 35 patients of essential hypertension and IHD selected for *Lekhan- Vasti* treatment

Age Group (In Years)	Male	Female	Total	
			No.	%
21-30	2	1	3	08.57
31-40	6	2	8	22.86
41-50	2	6	8	22.86
51-60	5	4	9	25.71
61-70	6	1	7	20.00
71- Above	-	-	-	-
Total	21	14	35	100.00

Table - II

Incidence of *Deha-prakrti* in 35 patients of essential hypertension and IHD selected for *Lekhan – Vasti* treatment

Deha – prakrti	No. of Patients	Percentage
Vataja	02	05.71
Pittaja	03	08.57
Kaphaja	06	17.14
Vata-Pittaja	07	20.00
Vata-Kaphaja	10	28.57
Pitta- Kaphaja	07	20.00
Samadosaja	-	-

Table - III

Effect of *Lekhan – Vasti* treatment on pulse rate and body weight in 35 patients of essential hypertension and IHD

	Pulse/Minute		Body weight in Kg.	
	Before treatment	After treatment (I- follow-up)	Before treatment	After treatment (I- follow-up)
Mean	84.17	79.45	60.88	59.99
± SD	5.34	3.71	8.46	8.55
		t 4.31		t 0.44
		$p < 0.001$		$p > 0.05$

1. Pulse rate and body weight
2. Blood Pressure
3. Lipid Profile
4. Neurohumoral functions
5. Electrocardiography

Mean score for pulse rate was 84.17 ± 5.34 per minute before treatment and it was reduced to 79.45 ± 3.71 after treatment ($p < 0.001$, highly significant). In case of body weight, there was only a minor reduction.

There was significant reduction in mean systolic blood pressure. It was 154.34 ± 14.73 before and 143.20 ± 11.98 after treatment respectively. Similarly highly significant reduction was observed

Table - IV

Effect of *Lekhan – Vasti* treatment on blood pressure in 35 patients of essential hypertension and IHD

	SYSTOLIC PRESSURE (In mm. of Hg.)		DIASTOLIC PRESSURE (In mm. of Hg.)	
	Before treatment	After treatment (I- follow-up)	Before treatment	After treatment (I- follow-up)
Mean	154.34	143.20	99.37	88.80
± SD	14.73	11.98	4.94	3.86
		t 3.47		t 9.95
		p < 0.01		p < 0.001

Table - V

Effect of *Lekhan – Vasti* treatment on s. cholesterol & total lipid in 35 patients of essential hypertension & IHD

	SYSTOLIC PRESSURE (In mm. of Hg.)		DIASTOLIC PRESSURE (In mm. of Hg.)	
	Before treatment	After treatment (I- follow-up)	Before treatment	After treatment (I- follow-up)
Mean	196.69	182.15	498.58	485.77
± SD	33.81	30.37	94.60	87.34
		t 1.89		t 0.59
		p > 0.05		p > 0.05

in distolic pressure, i.e. 99.37 ± 4.94 before treatment to 88.80 ± 3.86 after treatment.

Statistically significant changes were not seen in serum cholesterol and total lipid (Table V). Although there was some reduction in the mean levels, before and after treatment.

No statistically significant change was seen in S. triglycerides and HDL fraction of lipid profile after trial treatment.

No statistically significant reduction in mean score of S.VLDL Dr. Singh was seen after treatment. However significant change in form of reduction in mean S. LDL Dr. Singh was noted.

Table - VI

Effect of *Lekhan – Vasti* treatment on serum triglycerides and HDL in 35 patients of essential hypertension & IHD

	S. Triglycerides (In mg.%)		S. HDL (In mg.%)	
	Before treatment	After treatment (I- follow up)	Before treatment	After treatment (I- follow up)
Mean	104.31	111.89	45.95	45.10
± SD	39.25	57.57	11.37	11.84
		t 0.62		t 0.31
		p > 0.05		p > 0.05

Table - VII

Effect of *Lekhan – Vasti* treatment on serum VLDL and LDL in 35 patients of essential hypertension and IHD

	S. VLDL (In mg.%) (In mm. of Hg)		S. LDL (In mg.%) (In mm. of Hg.)	
	Before treatment	After treatment (I- follow up)	Before treatment	After treatment (I- follow up)
Mean	25.71	26.15	114.29	100.19
± SD	8.19	10.98	26.69	25.69
		t 0.19		t 2.25
		p > 0.05		p < 0.05

Table - VIII

Effect of *Lekhan – Vasti* treatment on some neurohumoral functions in 10 patients of essential hypertension and IHD

	VMA (mg. in 24 hr. of urine) treatment		5- HIAA (mg. in 24 hr. of urine)	
	Before treatment	After treatment (I- follow up)	Before treatment	After treatment (I- follow up)
Mean	5.99	5.83	7.71	6.18
± SD	3.03	2.60	5.06	4.15
		t 0.24		t 1.26
		p > 0.05		p > 0.05

The urinary VMA and 5-HIAA levels were found decreased after treatment though the changes were statistically not significant.

Discussion

Considering the efficacy of *Panchakarma* therapy in prevention and care of chronic diseases, it was decided to perform a study on a series of cases of essential hypertension and IHD. *Panchakarma* procedures are found to be highly effective in prevention and management of certain cardiovascular risk factors in a study reported by Sharma *et al* 1993. Lipid disorders at the level of adiposity have been recognised to be an important cause of many diseases in Ayurveda, including heart diseases. A large number of diseases have been classified in Ayurveda to be caused by over-nutrition, i.e. *Santarpana-janya*. In Ayurvedic therapeutics much importance has been given to *Vasti* therapy due to its vide scope. The present study has main focus on *Lekhan – Vasti*. This *Vasti* was formulated for the present study with an established hypolipidemic and cardioprotective drug, *Vaca* (***Acorus calamus*** **Linn.**) by Mamgain and Singh (1994).

In the present part of the study, 35 patients of essential hypertension and IHD were registered and put on *Lekhan – Vasti* treatment. Most of the patients, belonged to 31-70 yrs. of age group. The male patients predominated over females. Maximum number of patients were of *Vata-Kaphaja* body constitution (28.57%). As stated earlier the response of treatment was assessed on following parameters- pulse rate, body weight, blood pressure, lipid profile and neurohumoral studies.

Statistically significant to highly significant changes were found in pulse rate and blood pressure (Both systolic and diastolic). Changes in body weight were not significant. Again various fractions of lipid profile were also measured before and after *Vasti* therapy. Although in most of the fractions of lipid profile, statistically significant changes were not present, but favourable changes were seens in LDL fraction of lipid profile. It can be seen on close observation that there was reduction in all fractions of lipid profile, except a few. It may be noted that we are using a weight reducing drug in the form of *Vasti*, so it can be stated that *Vaca* having generalised Lekhan effect affords reduction of lipid profile. Though in some finding there is significant rise in HDL part of lipid profile,indicating its therapeutic efficacy too.

Shama *et al* (1993) in their study, also measured vasoactive intestinal peptide (VIP), a coronary vasodilator and it was found increased significantly after *Panchakarma* therapy.

Conclusion

It can be concluded in this part of the study, that *Lekhan-Vasti*, formulated with *Vaca* (***Acorus calamus*** **Linn**) can be a good approach in treatment of essential hypertension and IHD. This drug has weight reducing and cleansing property and it alters certain cardiovascular risk factors. This may be taken as a lead for further studies in this direction.

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हिन्दी सारांश

लेखन बस्ति का उच्च रक्तचाप एवम् हृदयरोग में चिकित्सीय प्रभाव का अध्ययन

पी० के० गुप्ता एवम् आर० एच० सिंह

उच्च रक्तचाप एवं हृदयरोग के 35 रोगियों में लेखन बस्ति का चिकित्सीय परीक्षण किया गया। प्रमुख लेखन औषधि वचा का मुख्य बस्ति-द्रव्य के रूप में प्रयोग किया गया। रोगी के रक्तचाप, नाड़ी गति और लीपिड प्रोफाइल में उल्लेखनीय परिवर्तन व लाक्षाणिक सुधार पाया गया।