

EFFECT OF LEKHANA BASTI AND TAB.ATORVASTATIN IN THE MANAGEMENT OF DYSLIPIDEMIA –A COMPARATIVE CLINICAL STUDY

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ABSTRACT

Dyslipidemia one of the life style disorder due to the today's faulty life style .Every 1% increase in cholesterol level there is 1-2% increase in the incidence of Coronary Heart Disease. Lipids can be correlated to that of Medo Dhatu. According to the scattered references Dyslipidemia can be correlated to Medo Dosha and subsequently as Medoroga. The treatment principles mainly includes Samshodhana Chikitsa(Bio cleansing),where as in modern statins are first choice of drug. Looking into the limitations in the modern medication clinical trial was carried out in 60 patients having Dyslipidaemia were divided into 2 groups A and B (30 patients each). Group A was administered with Lekhana Basti and in Group B Tab.Atorvastatin

was advised. The effect of treatment on the complete lipid profile was assessed after the treatment and after the follow up. Total duration of the study was 90 days. Statistical analysis showed highly significant result in the lipid profile.

Key words: Dyslipidemia, Lipid profile, Lekhana Basti, Atorvastatin.

INTRODUCTION

The 21st century is an era of tremendous development and innovation in all aspects of life in general and in the field of technology in particular which has made living much more comfortable on one side but on the other side gifted many life style related diseases. Today's life style mainly includes faulty food habits, minimum physical exercise, maximum mental

and intellectual exercise with stress, anxiety and depression resulting into various abnormalities in body composition, one of such gift is Dyslipidemia. Its prevalence is increasing, more over is a potential signal for unrecognized comorbidities like Obesity, Metabolic syndrome, Diabetes mellitus, Hypertension, Cardio vascular disease etc.,

Among the lifestyle disorders Dyslipidemia is the disorder of lipoprotein metabolism manifested by elevation of the total cholesterol the bad low density lipoprotein (LDL) cholesterol and the triglyceride concentrations and a decrease in the good high density lipoprotein (HDL) cholesterol concentration in the blood. ^[1]

Dyslipidemia is widely regarded as a major risk factor for coronary heart disease (CHD) and atherosclerotic cardiovascular disease; for every 1% increase in cholesterol level there is 1-2% increase in the incidence of CHD. ^[2]

There are scattered references available in Ayurveda correlating Dyslipidemia. Lipids can be easily correlated to that of Medo Dhatu. Abnormal composition of Medo Dhatu is considered as Medo Dosha and subsequently as Medoroga. It is a condition caused by derangement of Agni in general and Medodhatvagni in particular leading to improper formation of Medo Dhatu in excess, resulting into obstruction to the flow of Vata in Srotas, in turn aggravating the Vata Dosha which moves back into the Pakvashaya causing further excitation of Agni requiring frequent meals thus the vicious cycle continue resulting into Medoroga. ^[3]

Statins are the first choice in the treatment of Dyslipidemia, however the need for long term, lifelong therapy is associated with several adverse effects like myopathy, increased risk in ARF/CRF, hypothyroidism and memory loss.

In Ayurveda basically treatment is based on severity of the disease and virulence of the Dosha. Medo roga being Bahu Dosha dominant condition Samshodhana Chikitsa is preferred treatment modality.

Among these treatments Basti Karma is best treatment for correction of Vata Dosha, which is the basic factor involved in the pathogenesis of Medoroga.

Thus with this thought, A randomised comparative clinical study was done to evaluate the efficacy of Lekhana Basti with that of Atorvastatin in Dyslipidemia.

Aims and objectives

To compare the effect of Lekhana Basti and Atorvastatin in the management of Dyslipidemia (Medoroga)

Materials and methodology

Patients indicated and fit for trial were selected from outpatient and inpatient department of Panchakarma, National Institute of Ayurveda Hospital, Jaipur and outpatient department of Cardiology, SMS Medical College and Hospital, Jaipur, Rajasthan.

Diagnostic criteria

1. Abnormal levels of serum lipid profile.
2. Clinical features of Dyslipidemia and Medoroga like Ashaktaha Sarva Karmasu, Kshudra Shvasa, Svedadhikya, Utsahahani, Angagaurava.

Inclusion criteria

Serum lipid levels ranging

Serum Cholesterol (201mg/dl or more), Serum Triglycerides (161mg/dl or more), Serum HDL (below 40mg/dl), Serum LDL (131mg/dl or more), Serum VLDL (41mg/dl or more). All or any of these.

Exclusion criteria

Patients below 20 years & above 60 years, with other systemic diseases like cardiovascular diseases, associated with any rectal pathology like Haemorrhoids, Fissure etc., not fit for Lekhana Basti were excluded from the study.

Laboratory investigation

Routine hematological and urine investigations, lipid profile, liver function test were carried out before and after the treatment.

Assessment criteria

Complete Lipid profile including serum cholesterol, serum triglycerides, serum HDL, serum LDL, serum VLDL were assessed before starting the treatment, after completion of treatment and after follow up.

Methodology: Total 60 patients were selected, divided into 2 groups namely Group A and Group B containing 30 patients each by random sampling method, Group A patients received Lekhana Basti and Group B patients received Tab. Atorvastatin.

Duration of the study: 90 days.

Group A

In this group Lekhana Basti was administered as Kala Basti in modified schedule.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Basti	A	N	N	N	A	N	N	N	A	N	N	N	A	N	N	A

Preparation of Basti Dravya

Anuvasana Basti

60 ml of Triphala Taila was taken in a small container made lukewarm by keeping it in a hot water bath. Then Shatapushpa Choorna and Saindhava Lavana (each 1 gram) added and mixed with the help of mortar till a homogenous mixture was obtained. Once again Basti Dravya made into luke warm, filled in to enema syringe fitted with rubber catheter (no .08).

Niruha Basti^[4]

Makshika (Honey) 60ml, Saindhava Lavana 5grams, Triphala Taila 90 ml, Yastimadhu Kalka 20grams, Triphala Kvatha 240ml, were added accordingly and stirred well to get homogenous mixture. Lastly Gomutra 50ml, Yavakshara and Ooshakadi Gana Dravya(Hingu,Tutta,Kaseesa ,Shilajatu)2 gram each added administered through Basti Putaka.

The Basti was administered in the following steps.

The patient was subjected to Sarvanga Abhyanga with Dashamoola Taila followed by Bashpa Svedana. Then the patient was asked to have rice with green gram dal in lesser quantity than regular consumption, attend natural urges and walk a few steps before reaching the Basti room. On the day of Niruha Basti patient was asked to come in empty stomach.

After recording the vitals patient was advised to lie comfortably in left lateral position on Basti table with left leg straight and the right leg flexed at knee and hip joints, head resting on left hand with the right hand resting on the right leg, then Basti Dravya was administered.

On the day of Anuvasana Basti light food was advised after 9 hours of Basti administration or after the Pratyagamana. On the day of Niruha Basti advised to take light warm liquid food

like green gram soup ,rice Dal,Daliya after Basti Pratyagamana (the expulsion of administered Niruha Basti dravya).

Follow up: Follow up of the patients was done once in fortnight up to 2 months.

Group B

Tablet Atorvastatin 10 mg once daily at bed time with warm water for a period of 90 days was administered. Patient was advise to avoid oily, bakery, fast food and day sleep.

Observations and Result

Out of 60 patients maximum 63.33% patients were male, 83.33% patients in between the age group 25-50 yrs.53.33% patients were hindu,76.66% patients were married,80% patients were having the history of strainous work,53.33%were VataKapha Prakriti,53% were kroora kosta,78% patients were non vegetarians,

Table No.1. Showing the effect of treatment in Group A

Lipid Profile	BT	AT	AF	Pair wise significance		
				BT-AT	BT-AF	AT-AF
Serum Cholesterol	267.57± 21.15	167.17± 22.10	172.33± 21.83	<0.001* *	<0.001* *	<0.001* *
Serum Triglycerides	218.83± 34.25	166.77± 22.00	172.23± 21.30	<0.001* *	<0.001* *	<0.001* *
Serum HDL	56.43± 8.26	56.50± 5.06	58.80± 5.87	0.943	0.020*	<0.001* *
Serum LDL	167.70± 14.65	77.27± 19.24	78.62± 20.36	<0.001* *	<0.001* *	0.347
Serum VLDL	43.79± 6.87	33.35± 4.40	34.42± 4.27	<0.001* *	<0.001* *	<0.001* *

Table No.2. Showing the effect of treatment in Group B

Lipid Profile	BT	AT	AF	Pair wise significance		
				BT-AT	BT-AF	AT-AF
Serum Cholesterol	303.33± 26.31	-	223.33± 34.77	-	<0.001* *	-
Serum Triglycerides	232.00± 23.98	-	159.67± 23.27	-	<0.001* *	-
Serum HDL	50.37± 6.24	-	49.70± 5.86	-	0.094+	-
Serum LDL	206.57± 24.71	-	142.03± 32.74	-	<0.001* *	-
Serum VLDL	46.40± 4.80	-	31.93± 4.65	-	<0.001* *	-

DISCUSSION

Dyslipidemia can be studied under the broad umbrella of Sthaulya in Brihatrayi. Atisthauilya is at first mentioned by Acharya Charaka as one of the Kaphaja Nanatmaja Vikara in Maharoga Adhyaya and is later on elaborated upon in the subsequent Ashtau Ninditiya Adhyaya. A review of the Laghutrayi bears certain references to Dyslipidemia. Adhamalla while commenting on Sharangdhara Samhita has tried to differentiate between the two types Medo Roga viz; Sthaulya and Medo Dosha. According to the distinction made by him, the former is characterized by Udaravridhhi where as the later is characterized by morbid changes occurring due to obstruction of the channels.

Though Basti Karma considered as the prime modality for Vata Dosha but also it relieves the disorders of Pitta, Kapha, Rakta, Samsarga and Sannipataja nature by using specific drugs. It is considered to be Ardhachikitsa because of its extent of action on all the Dosha, Dooshya and Vyadhi.

Schedule of Lekhana Basti : In the present study a modified Kala Basti schedule was adopted, in order to have maximum Lekhana effect, more number of Niruha Basti and less number of Anuvasana Basti were administered as Anuvasana Basti is contraindicated in Medura (fatty), Bhuri Shleshmala (excessive Kapha) individuals. According to Acharya Sushruta in case of Meda and Kaphaja Vikara 3 or 5 Niruha Basti with 1 Anuvasana Basti can be administered. Keeping in this view 3 Niruha Basti and 1 Anuvasana Basti were administered alternatively as Kala Basti (16 Basti).

Mode of action of drugs used in Lekhana Basti

Madhu having Rooksha Guna, Kashaya Rasa and Chedana property, which acts on vitiated Kapha Dosha and Medo Dhatu. Further research proved that honey decreases S.Cholesterol, S.LDL, S.Triglyceride and increase S.HDL level. ^[5]

Saindhava Lavana having Tikshna and Sookshma Property, which enhances the absorption of Basti Dravya at the Srotas level. ^[6]

Triphala Taila and Triphala Kvatha already a proven antihyperlipidaemic drug. Yastimadhu as a Kalka Dravya which is also having antihyperlipidaemic activity^[7], a study revealed G. glabra root extract decreases total cholesterol and triglyceride and significantly increases HDL-c concentration in the serum. ^[8]

Gomutra one of the main ingredient having Ushna, Tikshna and Lekhana property and also researchers proved that cow urine decreases the bad cholesterol in the serum. ^[9]

Lastly Yavakshara and Ooshakadi Ghana drugs as a Prakshepa Dravya contains Hingu, Tutta Bhasma, Kasisa Bhasma and Shilajatu were added, all these drugs are having Lekhana and Medohara property.

The better reduction in the level of Serum Cholesterol by Lekhana Basti can be studied under two headings.

1. Action at the level of Liver

This could be because of the chief drugs of Lekhana Basti like Honey, Triphala, Gomutra, Yavakshara, Ooshakadi Gana Dravya are having Kaphahara, Medohara action. They might have absorbed by the superior haemorrhoidal veins and reached directly to the liver and 2/3rd directly enters systemic circulation through inferior and middle haemorrhoidal veins resulting into significant availability of drugs bypassing first pass metabolism there by correcting liver metabolism which might have reduced the synthesis of cholesterol and increasing its excretion into the intestine by the effect of drug which are Medohara and Lekhana in nature.

2. Correcting Vata Dosha: The corner stone in the treatment of reducing cholesterol is inhibiting the action of Acetyl Co-A reductase which may be considered as part of Vata Dosha. Basti Karma regulates the production and function of Vata Dosha.

The effect obtained by Lekhana Basti in the reduction of serum Triglycerides level may be due to the following reasons. The drugs used in Basti Karma are mainly Medohara (hypolipidaemic) and Lekhana in nature hence they might have reduced the level of TGL. Apart from this the basic causative factor for Dyslipidemia (Medoroga) is the abnormal movement of Vata Dosha which in turn increases the appetite there by in turn result in increased calorie intake. Hence to reduce the calorie intake the corner stone of the treatment could be regulating the movement of Vata Dosha which was achieved by successful administration of Basti Karma.

The significant improvement in the Serum HDL could be due to as Basti Karma corrects the Vata Dosha which is responsible for the proper transportation of Poshaka Rasa and formation of good quality Dhatu. Lekhana Basti drugs are having Medohara action, it cleanses the

channels of transportation their by eliminates the accumulated Dosha and Malarupi Medo Dhatu which may be the reason for the better reduction of LDL and VLDL level.

CONCLUSION

Dyslipidemia is an abnormal amount of lipids in the blood due to impaired lipid metabolism and a major risk factor for many life threatening diseases like Coronary artery disease, Diabetes mellitus etc., Dyslipidemia can be correlated with abnormal Medo Dhatu (Medo Dosha).

In Medoroga primarily there is Agni Vaishamya and Vata Dushti, among Samshodhana Basti Karma is best to correct Vata Dosha. Lekhana Basti was highly effective in reducing serum lipid profile, in particularly serum cholesterol level which was statistically highly significant. On comparison Group A (Lekhana Basti) showed better result than Group B (Atorvastatin) statistically.

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