

CLINICAL EVALUATION OF *GOMUTRABHAVIT VYOSHADI GUGGUL* IN THE MANAGEMENT OF HYPERLIPIDEMIA

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ABSTRACT

Hyperlipidemia is a major metabolic disorder vastly seen in this era of modernization, fast life, stressful life, fast foods having high calories and also having every comfort of living and not doing any kind of physical activity. It is an abnormal condition of elevation of lipids in blood. These metabolic derangements are considered as the risk factors for Atherosclerosis. Fifty percent of the population has an increased plasma lipid level, resulting in increased risk of coronary heart disease 20% in men aged 20 to 50 years of age and 30% in women aged 20 to 60 years of age. Incidence is higher in men than in women. According to *Ayurveda* it can be closely related to *Asthayee Medo Vruddhi*. In this study 30 patients with confirmed diagnosis of Hyperlipidemia were administered *Gomutrabhavit Vyoshadi Guggul* and assessment was done for both subjective and objective criteria. From the statistical analysis, it was evident that after completion of treatment 4 patients showed complete cure 25 patients showed markedly improvement and 1 patient showed improvement in all parameters of assessments.

Key words: Hyperlipidemia, *Gomutrabhavit Vyoshadi Guggul*, *Asthayee Medo Vruddhi*.

INTRODUCTION

Modernization, industrialization and sedentary habits along with the changes in the food habits are causing accumulation of *Meda* (fatty tissues) in the body. Fast foods which has become a fashion and a necessity due to the shift duties at work places have least nutritive values but are responsible for accumulation of fats in the body hence one can find many overweight people in such setups. Even the school going children are indulging in the habit of consumption of fast food hence many children of adolescent age

are overweight in metro metropolitan areas. Craze for electronic games computers and television further leads to lack of exercise and faulty food habits leading to increase in weight which further increases predisposition to various ailments like lifestyle disorders i.e. hypertension, ischemic heart disease, diabetes etc. The precursors of this adipose tissue i.e. cholesterol, triglycerides, fatty acids and their different factors which circulate in the circulatory system are comparable with the *Asthayee Meda Dhatu* as both the

descriptions match each other. It is also interesting to note that these fatty fractions largely depend on the condition i.e. healthy or diseased state of kidney and suprarenal gland which are considered as the *Moola Sthans* (the origin) of the *Meda Dhatu* (fatty tissues)

By the above analysis Hyperlipidemia stands out to be a major life threatening condition .Hence measures for its effective control should be of the highest priority .Therefore it was decided to study the subject and find out cost effective and natural remedy for this ailment.

Due to advancement of medical technologies many new diseases have come in front of medical science may be one cannot find its correlation directly in the *Ayurvedic Samhitas*.

There is a need to develop a herbal formulation which breaks the pathological process of Hyperlipidemia, prevent its complication and also which is cost effective. One of the formulations mentioned by *Bharat Bhaishajya Ratnakar* is *Vyoshadi Guggul* and *Bhaishajya Ratnavali* calls it as *Navak Guggul* is one of the best drug used in *Meda Vikruti* (deformation of fatty tissues).Thus *Gomutra* has been added in order to enhance the properties of the trial drug. Thus the present study has been undertaken to judge the efficacy of *Gomutrabhavit Vyoshadi Guggul* in *Asthayee Medo Vruddhi*.

Aims and Objectives:

- To evaluate the effect of *Gomutrabhavit Vyoshadi Guggul* in the Management of Hyperlipidemia.
- To study the probable mode of action of *Gomutrabhavit Vyoshadi Guggul*

Materials and Methods:

Materials taken for the study was *Gomutrabhavit Vyoshadi Guggul* .It was prepared in *Rasashala* of Y. M. T *Ayurvedic* College & Hospital.

Sampling:

30 patients with confirmed diagnosis of Hyperlipidemia were chosen randomly from Outdoor Patient Department (OPD) and Indoor Patient Department (IPD) of Y. M. T *Ayurvedic* Medical College & Hospital Kharghar Navi Mumbai.

Ethical Clearance:

Institutional Ethics Committee (IEC) approval was obtained and written consent was taken from the patients prior to the initiation of the study.

Research Design: Single blind clinical study.

Diagnostic criteria

- The patients whose lipid profile shows following values were considered for the study.
 1. Total cholesterol >250 mg/dl
 2. Triglycerides >150 mg /dl
 3. HDL Cholesterol < 40 mg /dl
 4. LDL Cholesterol > 100 mg/dl
 5. VLDL Cholesterol >30 mg/dl
 6. CHOL/HDL Ratio > 5
 7. LDL/HDL Ratio > 5.5

Inclusion criteria:

- Patients irrespective of sex, between 18 to 75 years of age.
- Patients diagnosed on the basis of criteria mentioned earlier in diagnostic criteria were included in the study
- Willing to sign the consent for study participation.

Exclusion criteria

- Patients having age < 18 yrs and > 75 yrs.
- Any generalized disorder like hormonal imbalance, carcinoma anywhere in the

body , immunocompromised patients etc were excluded

- Renal Parenchymal diseases.
- Acute and chronic cardiac conditions
- Pregnant ladies, lactating mothers, women taking contraceptives.
- Hypertensive patients on anti - hypertensive drugs and anti coagulant therapy.

Criteria for Assessment

Objective Criteria

- Lipid profile every month till 6 months.

Subjective criteria -table no ¹

Investigations:

- Lipid profile after every month for six months
- BSL Fasting and Post Prandial before treatment

Selection of the drug/medicines-

The contents of *Gomutrabhavit Vyoshadi Guggul* along with proportion are placed at Table ²

Thus *Gomutra* has been added during triturating in order to enhance the properties.

Methodology

Drug, dosage and duration: Posology is mentioned at Table ³

Observations

In the present study, a total number of 30 patients were registered, and all patients completed the treatment. Out of 30 patients, 4 patients (13.33) showed complete cure, 25 patients (83.33%) showed markedly improvement and 1 patient (3.33%) showed improvement in all parameters of assessments. It was observed that 17 patients (56.69%) were males and 13 i.e (43.33 %)were females and 21 patients (70%) were taking mixed diet where as 9 patients (30%) were vegetarians. It was observed that 13

patients (43.33) were in obese group, 10 patients (33.33%) were in overweight group and 7 patients (23.33%) were within limit.

Results

Effect on Biochemical Parameters: Table no. ⁴

Effect on clinical symptoms: By using Mann Whitney Rank Sum test.

In the 30 patients using Mann Whitney Rank Sum Test the symptoms

- *Swedhakikya* has started showing the statistical significant difference i.e. P is 0.038 from day 91 of study which is continued till the end of the study .At the end of the study T value 666.500 and the corresponding P- value is <0.001 which is statistically significant.
- *Hridrava* has started showing the statistical significant difference i.e. P is 0.005 from day 121 of study which is continued till the end of the study .At the end of the study T value 713.000 and the corresponding P- value is <0.001 which is statistically significant.
- *Shwaskruchata* has started showing the statistical significant difference i.e. P is 0.048 from day 121 of study which is continued till the end of the study .At the end of the study T value 713.000 and the corresponding P- value is <0.001 which is statistically significant.
- *Daurgandhya* has started showing the statistical significant difference i.e. P is 0.001 from day 151 of study which is continued till the end of the study .At the end of the study T value 735.000 and the corresponding P- value is <0.001 which is statistically significant.
- *Atitrushna* has started showing the statistic-

al significant difference i.e. P is 0.027 from day 136 of study which is continued till the end of the study .At the end of the study T value 765 and the corresponding P- value is <0.001 which is statistically significant.

- *Atishudha* has started showing the statistical significant difference i.e. P is 0.015 from day 136 of study which is continued till the end of the study. At the end of the study T value 765 and the corresponding P- value is <0.001 which is statistically significant.
- *Alasya* has started showing the statistical significant difference i.e. P is 0.002 from day 166 of study which is continued till the end of the study. At the end of the study T value 765 and the corresponding P- value is <0.001 which is statistically significant.
- *Nidradhikya* has started showing the statistical significant difference i.e. P is 0.001 from day 166 of study which is continued till the end of the study. At the end of the study T value 780 and the corresponding P-value is 0.001 which is statistically significant.
- *Daurbalya* has started showing the statistical significant difference i.e. P is 0.026 from day 151 of study which is continued till the end of the study. At the end of the study T value 806 and the corresponding P- value is 0.010 which is statistically significant.

DISCUSSION:

All the drugs present in the study are *kapha vata shamak* (pacification of kapha and vata) having *deepan*(appetizer), *pachan* (digestion) ,*lekhan* (scraping) and *vatanuloman karma* .As *Agnimandya* (digestive weakness) is the first step involved the *katu rasa* (pungent), *ushna virya* (warm potency) and *katu vipak* (post digestion effect) will definitely relieve this *Agni mandya* (digestive

weakness) .*Ushna veerya*(warm potency) acts as *pachak* (helps in digestion) and causes *vilayan* of *strotas* .*Medovaha strotodush-ti* and *dhatvagnimandya* are the key points of pathogenesis thus *ruksha*(dry), *ushna* (hot) and *kaphahar* properties of the drug pacifies *Medovaha strotodushti*. *Katu rasa* acts as *deepan pachan* and do *stotovivaran* and relieves *Meda dhatvagnimandya* the drug has potent *lekhan* properties which will cause scraping of accumulated *vikrut meda* and will cause *upashaman* of *lakshan* (pacification of symptoms).

Maricha and *guggul* causes *chedan* (perforate) and will remove *shlishta kaphadi doshas* from the body. *Triphala* will do *lekhan* and *shoshan* of *vikruta meda*, *trikatu* will act as *deepan*, *pachan* and *lekhan dravya*, *trimada* and *guggul* will act as *lekhan* and *Medohar dravya*. *Gomutra* has *katu ,tikta ushna virya* and *katu vipak* ,thus it has catalyst type of action and classically it is described in treatment of *Medovruddhi*.

CONCLUSION:

- *Asthayee medo vrudhhi* can be considered as Ayurvedic analogue of Hyperlipidemia.
- Excess indulgence in oily and fatty food, urbanization and sedentary life style, *manas hetus* (stress) play a major role in etiopathogenesis of *Asthayee Medo Vruddhi* .
- As there is no separate entity as *Astahyee Medo Vruddhi* is mentioned in classical text .*Dushta hetu*, *lakshana*(symptoms) and *chikitsa sutra* of *medovaha strotas* were taken into account and were considered as a key point for evaluation of symptoms and initiation of treatment.

- Lack of safe and effective treatment in modern science demands few global acceptance of *Ayurvedic* treatment.
- In the present study after statistical analysis *Gomutra bhavit Vyoshadi Guggul* has shown statistically significant result in all the parameters.
- Probable mechanism of action of the drug is combined effect of each of its ingredients. Drug can be safely used as none of the patients showed any untoward or adverse effect.

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Table no. 1

Sr . No.	Symptom	Grade 0 (normal)	Grade 1 (mild)	Grade 2 (Moderate)	Grade 3 (Se- vere)	Grade 4 (Ex- treme)
1	<i>Swedad- hikya</i>	Sweating after heavy work and fast movement or in hot sea- son.	Profuse sweat- ing after little work and movement	Sweating after little work and movement .	Profuse sweating af- ter little work and movement.	Sweating even at rest or in cold sea- son.

2	<i>Hrudrava</i>	Absence of Palpitations	of Palpitations after severe exertion	Palpitations after moderate exertion.	Palpitations after mild exertion	Palpitations after rest.
3	<i>Shwaskrucchata</i>	Dyspnoea after heavy work but relieved soon and up to tolerance.	Dyspnoea after moderate work but relieved later and up to tolerance.	Dyspnoea after little work but relieved later and up to tolerance.	Dyspnoea after little work but relieved later and beyond tolerance.	Dyspnoea in resting condition .
4	<i>Atikshudha</i>	Lunch+dinner+light breakfast	Lunch+dinner+heavy Breakfast	Lunch+dinner+2 breakfast	Lunch+dinner+2 heavy breakfast	Even with 2 heavy breakfast lunch and dinner feels hungry
5	<i>Nidradhikya</i>	Normal sleep 6-7 hrs	Sleep up to 8 hrs/day with <i>anga gaurav</i>	Sleep to 8 hrs /day with <i>anga gaurav and jrimbha</i>	Sleep up to 10 hrs/day with <i>tandra</i>	Sleep up to 10 hrs /day with <i>tandra</i>
6	<i>Daurgandhya</i>	Absence of smell	Occasional bad smell from the body which removed after bath	Persistent bad smell difficult to suppress with deodorants	Persistent bad smell from long distance and is not suppressed by deodorants	Persistent bad smell felt from long distance even intolerable to the patient himself.
7	<i>Alasya</i>	Doing work satisfactorily with proper vigor	Doing work satisfactorily under mental pressure and takes	Doing work satisfactorily under mental	Doing work very slowly	Does not take initiation and does

		time	stress and takes time .	work slowly
8	<i>Atitrushna</i>	Normal thirst Up to 1 liter excess intake of water	1-2 liters excess intake of water	2-3 liters excess intake of water More than 3 liters intake of water
9	<i>Daurbalya</i>	Can do routine work Can do moderate exercise without difficulty .	Can do only mild exercise	Can do mild exercise with very difficulty. Cannot do even mild exercise.

Table no.2

Sr. No.	Drugs	Latin name	Part used	Ratio
1.	<i>Amalaki</i>	Phyllanthus emblica	fruit	1 Part
2.	<i>Hareetaki</i>	Terminalia chebula	fruit	1 Part
3.	<i>Bibhitaki</i>	Terminalia belerica	fruit	1 Part
4.	<i>Shunthi</i>	Zingiber officinalie	Rhizome	1 Part
5.	<i>Maricha</i>	Piper nigrum	fruit	1 Part
6.	<i>Pippali</i>	Piper longum	fruit	1 Part
7.	<i>Vidanga</i>	Embelia ribes	fruit	1 Part
8.	<i>Chitrak</i>	Plumbago Zeylanica	Root	1 Part

9.	<i>Musta</i>	Cyperus Rotundus	Root	1 Part
10.	<i>Guggula</i>	<i>Commiphora Muku- la</i>	Resin (gum)	1 Part

Table no. 3

Duration of therapy	6 months
Dose	2 tablets (each 500mg) thrice a day
Time	After food.
Anupan	<i>Koshna jala</i>
Follow up	Clinical symptoms assessed after every 15 days Lipid profile was repeated every month.
Diet	Advised to have usual diet

Table no. 4

Biochemical Parameters	Mean score		% Relief	P value
	BT	AT		
Sr.Cholesterol	275.932	200.832	27.22	<0.001
Sr .Triglycerides	202.54	120	40.75	<0.001
Sr.HDL	32.463	48.6	50.12	<0.001
Sr.LDL	200.509	126.207	37.06	<0.001
CHO/HDL	8.510	4.147	51.28	<0.001
LDL/HDL	6.260	2.647	57.73	<0.001
VLDL	40.5025	25.976	40.74	<0.001

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