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A CASE STUDY: EFFECT OF *AYURVEDIC* MEDICINE IN THE MANAGEMENT OF DYSLIPIDEMIA

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ABSTRACT

Dyslipidemia is a condition characterized by elevated levels of lipids in the blood. According to the Indian Heart Journal, high cholesterol affects 25–30% of the urban population and 15–20% of the rural population in India, with lower prevalence observed in high-income countries. The most common types of dyslipidemia in India include borderline high LDL, elevated triglycerides, and reduced HDL levels. Among the various risk factors for coronary heart disease (CHD)—such as high blood pressure, smoking, and physical inactivity—plasma cholesterol shows the strongest correlation with CHD incidence. The risk of CHD increases proportionally with rising cholesterol levels. Numerous studies have confirmed the role of elevated cholesterol and low-density lipoproteins (LDL) in the development of atherosclerosis. Geographical studies further highlight that populations with a high prevalence of CHD consistently exhibit higher average plasma cholesterol levels in adults. From an *Ayurvedic* perspective, Dyslipidemia is associated with *Medo-dhatuDushti* (vitiation of adipose tissue). Management focuses on *NidanParivarjan* (elimination of causative factors) along with *Pathya-Apathya* (dietary and lifestyle guidelines). In the present case, the principles of *Medo-dhatu Chikitsa*

were applied for effective management. Currently, the most common treatment in modern medicine involves statins such as Simvastatin, Lovastatin, Atorvastatin, and Rosuvastatin. However, these medications often cause side effects like headaches, sleep disturbances, skin flushing, muscle pain, drowsiness, dizziness, nausea, vomiting, and abdominal discomfort, sometimes leading to more harm than benefit. Since Dyslipidemia is primarily a lifestyle-related disorder, there is a significant need for lifestyle modifications and natural treatments to improve overall health, prevent complications, and reduce the risk of associated conditions like CHD, angina, coronary artery disease, and heart attacks. In this regard, *Ayurveda* offers a safe, affordable, and side-effect-free approach for managing Dyslipidemia. Through this case study, the authors aim to demonstrate the effectiveness of Ayurvedic treatment, particularly *Pathya Ahara-Vihara* (wholesome diet and lifestyle), in successfully managing Dyslipidemia.

KEYWORDS: Dyslipidemia, *Medo-dhatuDushti*, *NidanParivarjan*, *Pathya-Apathya.*

INTRODUCTION

Dyslipidemia refers to an imbalance of lipids in the bloodstream, encompassing abnormalities in one or more lipoprotein types.[1] This condition often presents as elevated levels of total serum cholesterol, low-density lipoprotein (LDL), and triglycerides, alongside reduced high-density lipoprotein (HDL) concentrations. Lipoproteins are complex molecules crucial for transporting cholesterol, triglycerides, and fat-soluble vitamins throughout the body.[2,3]

Elevated LDL cholesterol is a known risk factor for coronary heart disease (CHD), while increased very low-density lipoproteins (VLDL) are associated with early-onset atherosclerosis.[4] The cholesterol-to-HDL ratio, calculated by dividing total cholesterol by HDL cholesterol, serves as an indicator of heart disease risk; a ratio below 3.5 is recommended to help prevent CHD.[5] In developed nations, CHD accounts for approximately 25-30% of all deaths, with dyslipidemia being a significant contributing factor.[6]

Many individuals with dyslipidemia are asymptomatic until the condition becomes severe, often only detected through lipid profiling during routine health assessments or evaluations for other medical issues. If left untreated, dyslipidemia can lead to serious health problems such as coronary artery disease (CAD) and peripheral artery disease (PAD), both of which increase the risk of heart attacks and strokes. Common symptoms include:

- Leg pain during physical activity.

- Excessive thirst.
- Chest tightness or pressure.
- Shortness of breath.
- Indigestion.
- Sleep disturbances.
- Fatigue.
- Heart palpitations.
- Cold sweats.
- Nausea, vomiting.
- Swelling in various parts of the body.[7]

Hyperlipidemias are categorized into primary and secondary types.
Primary hyperlipidemia:- Typically stems from genetic factors, such as mutations affecting receptor proteins.

Secondary hyperlipidemia:- arises from other underlying conditions, including type 2 diabetes, renal failure, hypothyroidism, nephrotic syndrome, excessive alcohol consumption, and certain metabolic disorders. These lipid abnormalities are prevalent in the general population and are modifiable risk factors for cardiovascular diseases due to their role in promoting atherosclerosis.[8]

Causes of Secondary Hyperlipidemia

Secondary hyperlipidemia, also known as acquired dyslipoproteinemia, increases the risk of early-onset atherosclerosis. When associated with significant hypertriglyceridemia, it can lead to complications like pancreatitis.

The primary causes include

- Type 2 diabetes.
- Renal failure.
- Hypothyroidism.
- Nephrotic syndrome.
- Excessive alcohol consumption.
- Certain metabolic disorders.

Another form, postprandial hyperlipidemia, results from a temporary rise in lipid levels after eating and is considered a normal physiological response rather than a pathological condition.[9,10]

According to *Madhav Nidana* in *Ayurveda*, an unhealthy lifestyle involving lack of exercise (*Avyayama*), daytime sleep (*Diwaswapna*), consumption of oily and sticky foods (*ShleshmalaAhara*), and excessive intake of sweets (*Madhura Rasa*) leads to *Medo Vriddhi* (excess fat accumulation). This accumulation obstructs bodily channels (*Srotasa*), disrupts tissue metabolism, and prevents proper nourishment of other tissues. As a result, individuals become incapable of performing daily tasks efficiently (*Asakta*).[11]

This imbalance can manifest as symptoms like shortness of breath (*KshudraShwasa*), excessive thirst (*Trisha*), confusion (*Moha*), lethargy (*Swapan*), unclear speech (*Krathana*), dizziness (*Sadan*), extreme hunger (*Kshut*), sweating (Sweda), body odor (*Dourgandhya*), reduced vitality (*Alp-pran*), and sexual difficulties (*Alp-maithuna*).[12]

Ayurvedic approaches, including lifestyle modifications such as consuming medicated water (*Shadangapaniya*), following a healthy diet (*Pathya Ahara*), and regular exercise (*VyayamAbhyas*), can effectively manage Dyslipidemia. These methods not only reduce dependence on allopathic medications but also alleviate economic strain.

CASE

Bhumit Nagar, a 18 years old male patient, resident of Harshnagar, Rampura, district Udaipur, Rajasthan came in OPD with the complaints of pain in legs, lethargy, excessive thirst, and shortness of breath during climbing up stairs.

PHYSICAL EXAMINATION AND INITIAL INVESTIGATIONS

Physical Examination

Blood Pressure -118/70 mmHg

Heart Rate -74/min

Height -169 cm

Weight -57kg

BMI – 20

Laboratory Evaluation

Fasting Lipid Profile

Total Cholesterol Level -239 mg/dL

Triglycerides -220 mg/dL

Very Low-Density Lipoprotein (VLDL)-44 mg/dL

Low Density Lipoprotein (LDL) -155 mg/dL

High Density Lipoprotein (HDL)-40mg/dL

Blood Sugar (F) -96 mg/dL

Blood Sugar (pp)-117 mg/dL

CLINICAL FEATURES

Patient complaints of pain in legs more often during night time, and lethargic for 3 months. Before 3 months he was asymptomatic, after that he gradually developed above symptoms and received modern medicine of statin group prescribed by modern physician since last two months, but no significant improvement was observed by the patient. With same complaints, he attended the OPD**.**

PAST HISTORY

Patient had no history of hypertension, Diabetes mellitus and smoking.

AYURVEDIC MANAGEMENT

The case has been thoroughly examined and given following *Ayurvedic* management for keeping in views that: *Shadangapaniya* is helpful in the digestion of *Ama*, absorption of *Sleshma (Kapha)* and pacifies the thirst (*Trishna*).[13] Also, dietary changes help a lot in the management.

Drugs	Doses	Anupana	Kala	Days
(1)*Panchkol Churna*	3gm	Luke warm water	After food	10days
(2)*ArjunaTwakaChurna* + *Giloy Churna* + *Amalaki Churna*	3gm 1gm 2gm	Luke warm water	After food	10days
(3)*Kanchanar Guggulu*	2BD	Luke warm water	After food	10days
(4)*Madohar Guggulu*	2BD	Luke warm water	After food	10days
(5)*Lekhniya Mahakashaya*	10gm	Luke warm water	Before food	10days
(6) Shadangapaniya	10gm	Luke warm water	Intake as a water	whole day

All the contents have properties of *Deepana*, *Ama Pachana*, and *Medo-Vishoshana* that helps in *Kapha-Medo Vishoshana* and hence useful in Dyslipidemia**.**

Pathyapathya

Pathya

The patient was advised to consume chapattis made from barley (*Yava*).[14] include ginger (*Ardrak*) and garlic (*Lashuna*) in their diet, opt for *Mudga* instead of *Chanak*,[15] engage in a 3 km morning walk daily, and take a 10-minute walk (*Chankramana*) after meals.[16]

Apathya

- The patient was strongly advised to avoid the following:
- Oily and fried foods, sweets, and items high in sugar
- Meat and high-protein diets
- Sleeping during the daytime

OBSERVATIONS AND RESULTS

Patient took all the suggested medicines, *Pathyas* (specially drinking of *Shadangapaniya* whole day) and also followed lifestyle modification regularly for 10days.clinical Symptoms and signs were evaluated. Lipid profile and other examination were performed after 10 days treatment.

Assessment of lipid profile

Before treatment

ARTH DIAGNOSTICS

NABL व NABH प्रमाणित

Name	:	**Mr.BHUMIT NAGAR**	**Lab No.**	:	**012411080280**
Age/Gender	:	18 YRS/MALE	Sample Received	:	08/Nov/2024 12:49PM
Centre	:	ASF	Result Reported	:	08/Nov/2024 02:06PM
Ref.By	:	**Self**	Reg. No.	:	1419036

BIOCHEMISTRY

Test Name	Result	Unit	Normal Value	Method
LIPID PROFILE, Serum				
Total Cholesterol	184.2	mg/dL		CHOD-PAP
Triglyceride	**235.7**	mg/dL		
HDL Cholesterol	48.2	mg/dL		Direct (PVS/PEGME precipitation & Trinder reaction)
LDL Cholesterol	94	mg/dL		
VLDL Cholesterol	**41.5**	mg/dL		
Total / HDL Cholesterol Ratio	3.82	Ratio		
Non HDL Cholesterol	**136.00**	mg/dL		

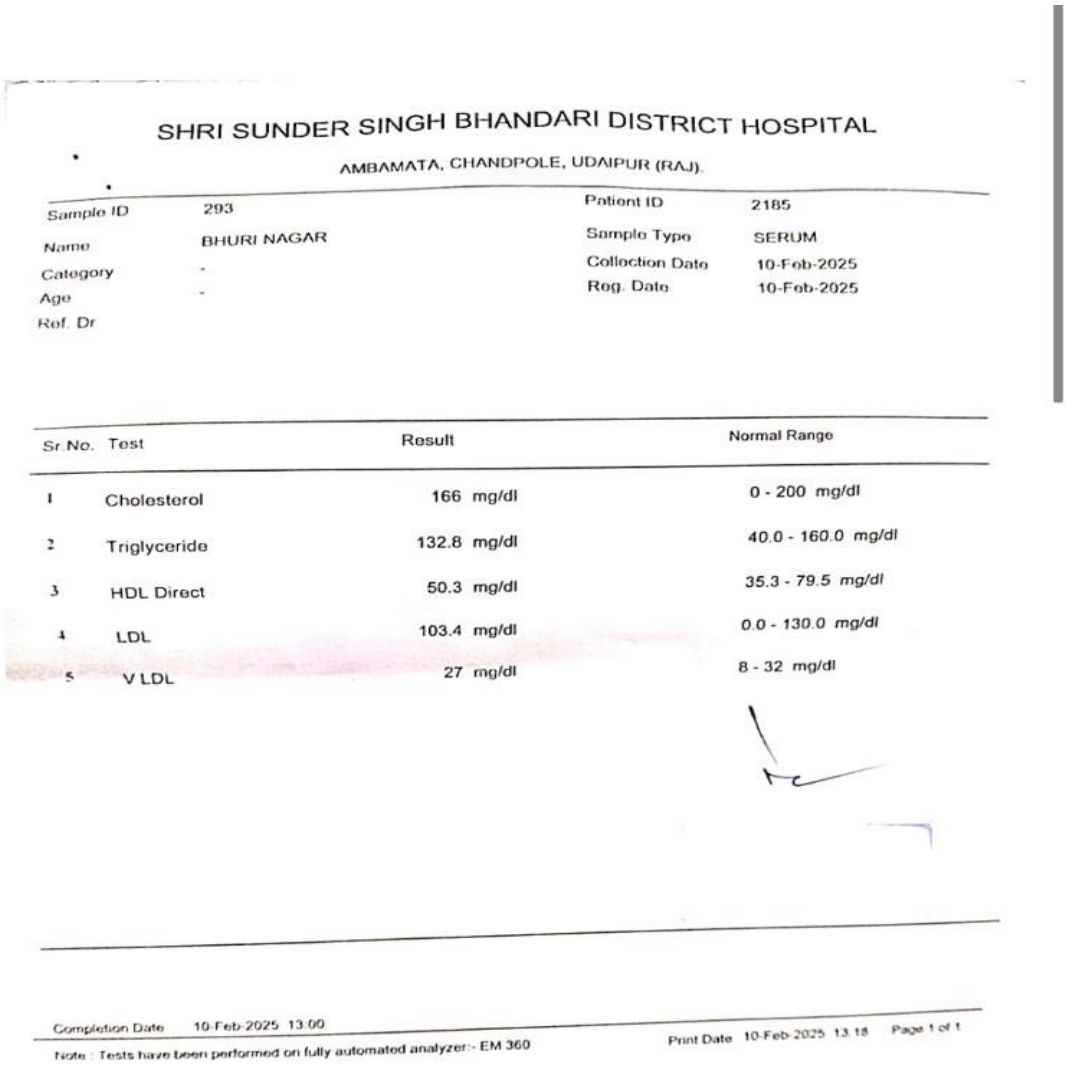
Reference range according to NCEP ATP III guidelines.

Total Cholesterol	Triglycerides	HDL Cholesterol	LDL Cholesterol
<200 Desirable 200-239 Borderline high >=240 High	<150 Normal 150-199 Borderline high 200-499 High >=500 Very high	<40 Low >=60 High	<100 Optimal 100-129 Near optimal/Above optimal 130-159 Borderline high 160-189 High >=190 Very high
Non HDL Cholesterol			
<130 Optimal <160 Borderline high <190 High >=190 Very high			

Note : For better accuracy and superior predictability of cardiac risk, we at Arth Diagnostics, do LDL Cholesterol by Direct method (Not calculated). So calculation of VLDL by triglyceride is not applicable here.

Dr. Aakanksha Paniya
M.B.B.S., MD Pathology
RMC NO-19732

After treatment



SHRI SUNDER SINGH BHANDARI DISTRICT HOSPITAL

AMBAMATA, CHANDPOLE, UDAIPUR (RAJ).

Sample ID	293	Patient ID	2185
Name	BHURI NAGAR	Sample Type	SERUM
Category	-	Collection Date	10-Feb-2025
Age	-	Reg. Date	10-Feb-2025
Ref. Dr			

Sr.No.	Test	Result	Normal Range
1	Cholesterol	166 mg/dl	0 - 200 mg/dl
2	Triglyceride	132.8 mg/dl	40.0 - 160.0 mg/dl
3	HDL Direct	50.3 mg/dl	35.3 - 79.5 mg/dl
4	LDL	103.4 mg/dl	0.0 - 130.0 mg/dl
5	V LDL	27 mg/dl	8 - 32 mg/dl

Completion Date 10-Feb-2025 13:00

Note : Tests have been performed on fully automated analyzer:- EM 360

Print Date 10-Feb-2025 13:18 Page 1 of 1

DISCUSSION

Dyslipidemia is a lifestyle disorder resulting from the dysfunction of *Medodhatvagni.* Factors such as *Ama* (toxic metabolic waste), excessive consumption of *SleshmalaAhara-Vihara* (*Kapha*-aggravating diet and lifestyle), and lack of physical activity (*Avyayama*) contribute to the disturbance of *Medovaha-Srotas* (fat metabolism channels), along with the imbalance of *Kaphadosha*.[17]

In this context, *Shadangapaniya* was used as a primary treatment for *Medo-Dushti* due to its properties like *Deepana* (carminative), *Pachana* (digestive), *DahaPrashman* (reducing burning sensations), *Jwarhara* (fever-reducing), *Agnimandyahara* (improving digestion), and *Laghu* (lightness).[18] It helps pacify excessive *Pitta* and *Kaphadosha* while regulating excess *Medo dhatu (fat tissue).*

The Imbalance of *Kaphadosha* leads to irregular lipid metabolism and blockage of bodily channels (*MedovahaSrotas*). In allopathic medicine, the long-term management of dyslipidemia is often unsatisfactory due to the prolonged use and side effects of medications.

Considering this, *Shadangapaniya*, along with a balanced diet and lifestyle (*Pathya Ahara-Vihara*), plays a crucial role in managing dyslipidemia (*Medo-Dushti*). Prioritizing *Kapha-Medohara* treatment, including *Shadangapaniya* and dietary interventions for fat metabolism (*Medo-Vishoshana*), is essential for effective management.[19]

The patient was advised to engage in *Vyayama* (exercise), including a morning walk and post-meal walking (*Chankramana*). As part of a suitable diet (*Pathya*), *Mudga* (Vignaradiata) and *Yava* (barley, Hordeum vulgare) were recommended. *Yava* is known for its *Kapha*-pacifying (*Sleshma-vikaranut*) properties and helps balance *Meda* (fat tissue), *Vata*, and *Trishna* (thirst disorders).[20] It aids in reducing *Kapha* and *Meda* due to its *Ruksha* (dry), *Kashaya* (astringent), *Laghu* (light), and *Vilekhana* (scraping) qualities.[21] Similarly, *Mudga* also possesses *Ruksha*, *Kashaya*, and *Laghu* properties, making it effective in pacifying *Pitta* and *Kapha*.[22] It is considered the most wholesome among all pulses. *AcharyaCharaka* has categorized both Yava and *Mudga* under "*AbhyasaYogyaDravya*," indicating their suitability for regular consumption.[23]

CONCLUSION

In conclusion, following a strict schedule of *Shadangapaniya* along with *Pathya-Apathya* measures proves to be beneficial in stabilizing lipid levels, body weight, and BMI. In this case, the clinical symptoms improved without any observed side effects by the end of the therapy. Therefore, it can be stated that these selected measures, particularly *Shadangapaniya*, are safe, cost-effective, and beneficial for individuals with conditions like obesity, diabetes, hypertension, coronary heart disease (CHD), and other metabolic syndromes, which *Ayurveda* attributes to *SleshmaVikruti*. This natural approach is one of the simplest ways to manage and prevent dyslipidemia while also reducing the risk of CHD and other related diseases, ultimately contributing to increased life expectancy.

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