WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 12, Issue 21, 489-496. Case Study ISSN 2277– 7105

AYURVEDIC MANAGEMENT OF DYSLIPIDAEMIA: A CASE REPORT

Dr. Snehal Pansare*

Sant Tukaram Nagar, Pimpri Colony, Pimpri Chinchwad, Maharashtra, Pune 18.

Article Received on
06 Oct. 2023,

Revised on 27 Oct. 2023,
Accepted on 17 Nov. 2023

DOI: 10. 20959/wjpr202321-30332

***Corresponding Author**
Dr. Snehal Pansare
Sant Tukaram Nagar, Pimpri Colony, Pimpri Chinchwad, Maharashtra, Pune 18.

ABSTRACT

The three most important classes of lipid are cholesterol, which is composed of hydrocarbon rings; triglycerides (TG), which are esters composed of glycerol linked to three long chain fatty acids; and phospholipids, which is composed of fatty acids containing phosphate group. Dyslipidaemia is elevated serum levels of cholesterol, triglycerides, or both, variably accompanied by reduced levels of HDL Cholesterol. Plasma cholesterol and TG are clinically important because they are major treatable risk factors for cardiovascular disease. In Ayurveda dyslipidaemia is consider as a *Santarpanjanya vyadhi* (overnutrition disease) with *Medo dhatu dushti* (fat tissue abnormality). A condition arises due to *medovridhi* which in turn restricts the nourishment of other *dhatus*. *Medoroga* or *Sthaulya* are diseases in which main culprit is visiated *medo dhatu* (adipose tissue) which is a principal *dushya*, in obesity and dyslipidaemia. In present case report, A 32 years old male patient came for ayurvedic management of dyslipidaemia found on routine investigation. *Medohar guggul, Kanchanar guggul, Arogyavardhini vati, Anulomak vati along with* decoction of Trachyspermum ammi(*Yavani*), Operculina turpethum(*Nishottar*), *Triphala* (mixture of Terminalia chebula, Phyllanthus emblica, Terminalia bellirica), Tinospora cordifolia(*Guduchi*) given for 2 months.

KEYWORDS: Dyslipidemia, *Medovriddhi, Ayurveda,* Triglycerides.

1. INTRODUCTION

Lipids are non-polar hydrophobic molecules that are needed by all living cell, absorbed from the intestines and are carried throughout the body via lipoproteins for energy, steroid production, or bile acid formation. Major contributors to these pathways are cholesterol, low-

density lipoprotein cholesterol (LDL-C), triglycerides, and high-density lipoprotein (HDL-C) cholesterol. An imbalance of any of these factors, either from organic or nonorganic causes, can lead to dyslipidaemia.[1] The prevalence of dyslipidaemia is 66.7%, as it increases with age.[2] Causes of hyperlipidaemia are increased synthesis of lipoproteins in the liver due to low plasma colloid oncotic pressure, decreased catabolism of lipids.[3] Lipoproteins are complexes and proteins that are essential for transport of cholesterol, triglycerides and fat-soluble vitamins.[4] Transport of circulating increased levels of atherogenic lipoproteins especially LDL also IDL contribute to the development of atherosclerosis.[5] Majority of dyslipidaemia patients have some combination of genetic predisposition and environmental contribution such as lifestyle, medical condition and drugs. The most common cause of a raised TG levels includes excess alcohol intake, medications such beta blockers and retinoids, type 2 diabetes mellitus, impaired glucose tolerance, central obesity or other manifestation of insulin resistance.[6] Currently available hypolipidemic drugs (statins) have been associated with a number of side effects. Patients on treatment with crystalline niacin or extended-release niacin showed significant elevation in ALT and risk of hepatotoxicity is much greater with slow-release niacin.[7]

According to Ayurveda dyslipidaemia is considered as *Santarpanjanit vyadhi*. *Santarpana* (overnutrition) leads to vitiation of *kapha dosha* and *meda dhatu* and various obstructive pathologies, whereas *apatarpana*(undernutrition) leads to vata-pitta dosha vitiation and various degenerative pathologies.[8] *Santarpana* combines medication and food supplements that are high in nutraceuticals. In addition, issues brought on by a sedentary lifestyle and an excessively nutrient-rich diet. The nourishing (brimhana) substance possess properties like heavy (guru) leading to fullness, cold potency (sheeta), softness (mrudu), unctuousness (snigdha), thickness (bahala), gross (sthoola), sliminess (picchila), slowness (manda), stability (sthira) and smoothness (shlakshna). These are similar to qualities of *meda dhatu*, which causes *vikrit vriddhi of meda*.*Medovriddhi* causes a situation that limits the sustenance of other *dhatus*.

Santarpaniya vyadhis and their complications should be managed by ullekhana(therapeutic emesis), virechana (therapeutic purgation), raktamokshana(blood-letting), specific exercises, therapeutic fasting, *dhooma* (hot fomentation with smoke of medicinal plants), and swedana(sudation).

MATERIAL AND METHODS

Single arm case report of 32 years male patient of dyslipidaemia is discussed with detail history taking.

Written consent was taken from patient. Assessment criteria which mainly include lab investigations.

CASE REPORT

A male patient of age 32 years came with complaints of *daurbalya, malavasthambh* from the past 2-3 months. The patient came to the OPD with all of the reports after discovering elevated triglyceride levels during a routine examination and agreeing to receive Ayurvedic treatment for that.

Past medical/surgical/family history

There was no any known drug allergy. No any known disease.

Personal History

Diet- Mixed both veg-nonveg

Appetite- Irregular

Bowel- Constipated

Sleep- less

Addictions- Alcohol, Smoking in one a week frequency

General examination

All vital parameters were within normal limits. Patient was haemodynamically stable.

Eight-fold examination

- *Nadi*- 78/min
- *Mala- Malavsthambh*
- *Mutra- Samyak*
- *Jivha- Niram*
- *Shabda- Prakrit*
- *Sparsha- Unushna*
- *Druk- Samyak*
- *Aakruti- Madhyam*

Systemic examination

Systemic examination was normal.

Lab Investigations

Patient came with following reports.

- Glucose fasting -97 mg/dl
- Glucose post prandial- 112 mg/dl
- Serum cholesterol- 149 mg/dL
- Serum Triglyceride - 266 mg/dL
- High-density cholesterol (HDL-C) - 36 mg/dL
- LDL/HDL Ratio – 1.66
- VLDL Cholesterol – 53.2
- LDL-C Estimation – 59.8
- Ultra TSH, Serum - 3.592 uIU/mL

Results were in the normal range for urea, creatinine, electrolytes, bilirubin, alkaline phosphatase, alanine aminotransferase, and albumin, Haemoglobin, electrolytes and HbA1c was 5.6%.

Treatment given

Lipid lowering therapies have a key role in the secondary and primary prevention of cardiovascular diseases. Assessment of risk factors, treatment of all modifiable risk factors and changes in lifestyle, especially diet and exercise, are central management in all cases. The goal in the clinical management of lipoprotein disorders was prevention of atherosclerotic cardiovascular disease.

Following treatment plan was advised to the patient.

Table No. 1: *Ayurvedic* Oral Medicines.

Sr.no	Medicine	Dose	Time	Medium	Duration
1.	*Kanchnar guggula 250mg*	2 BD	On empty stomach	Luke warm water	2 months
2.	*Medohar guggula 250mg*	2BD	On empty stomach	Luke warm water	2 months
3.	*Arogyavardhini vati 250 mg*	2 BD	On empty stomach	Luke warm water	2 months
5.	*Anulomak vati 500mg*	3 HS	*Nishi* (After at night)	Luke warm water	2 months

6.	*Nishottar* *Yavani* *Triphala* *Guduchi* Each 4 gm.	40 ml Twice a day, Freshly prepared	On empty stomach		2 months

OBSERVATION AND RESULTS

Two months treatment had shown better results to the patient. Blood investigation after two month shown decreased triglyceride levels. Patient got relief from constipation, generalised weakness.

Effect of drug therapy should be assessed after 6 weeks.[9] To review the side effects, lipid response and liver function test. During follow up compliance with drug treatment, diet and exercise assessed with monitoring of weight, blood pressure and lipid levels. Presence of cardiovascular symptoms or signs noted and absolute cardiovascular risk assessed periodically.

Table no. 2: Blood Investigations Before And After.

Sr. No	Name of test	Before Treatment	After Treatment
1.	Serum cholesterol	149 mg/dL	137
2.	Serum Triglyceride	266 mg/dl	199
3.	High-density cholesterol (HDL)	36 mg/dL	40
4.	LDL/HDL Ratio	1.66	1.35
5.	VLDL Cholesterol	53.2	52.4
6.	LDL-C Estimation	59.8	54.3
7.	Ultra TSH, Serum	3.592 uIU/mL	3.348

DISCUSSION

Patients having cardiovascular disease, diabetes mellitus, chronic renal impairment, familial hypercholesterolaemia or absolute risk of cardiovascular disease of greater than 20% in the ensuring 10 years are considered as high-risk patients. The present case was under the low-risk category for cardiovascular disease, in which ayurvedic management with non-pharmacological treatment given to patient.

The most common way for detecting abnormalities in lipid metabolism is during routine blood investigations. The main mode of treatment was to relieve the *kapha avarodh* to *rakta*, to reduce the *meda* deposition in *sira*. Treatment modality acts as *kaphapitta* pacifying which in turn acts as barrier in the etiopathogenesis of *medorog*.

The probable mode of action can be as follows

Mode of action of Medicines

1. Medohar guggula: It contains *Shunthi, Pippali, Marich, Chitrak, Haritaki, Bibhitaki, Amalaiki, Musta, Vidanga, suddha guggula*. Almost all drugs are having *katu rasa, laghu ruksha guna, ushna virya* and *kapha-vata shamak* properties, it has *deepan, pachan, kleda-meda shoshak, srotovishodhak, lekhana* action also. Hence it helps in scrapping of excessive *meda* and *kapha*.[10]

2. Kanchanar guggula: *Kanchanar* is the main content which is having *kashay rasa, katu vipak, laghu and ruksha in guna kapha-pittaghna* in nature, *kapha-meda shoshak* also contains *Shunthi, marich, pippali, triphala, varun. Jirak, guggula.*[11]

3. Arogyavardhini vati: *Arogyavardhini vati* is useful therapy for hypercholesterolemia through reducing oxidative stress (decreasing MDA and increasing GSH) and lipid levels (decreasing serum total cholesterol, triglyceride, LDL levels and increasing serum HDL level).[12]

4. *Anulomak vati*- *It contains Kampillak, Nishottar, Triphala, Bibhitaki, Ajmoda, Yavani, Shunthi, Hingu, Saindhav, Sauvarchal, Sonamukhi.* Drugs are purgative in nature, relieves constipation. *Virechan*/*Mrudu virechan* has been given in treatment protocol of *santarpanjanya vyadhi*.

Mode of action of decoction

Decoction of Trachyspermum ammi(*Yavani*), Operculina turpethum(*Nishottar*), *Triphala* (mixture of Terminalia chebula, Phyllanthus emblica, Terminalia bellirica), Tinospora cordifolia(*Guduchi*) each 3 gm are taken and decoction prepared.

Guduchi- it is bitter and astringent in taste, digestive, relieves bio toxins, relieves *tridoshas,* diuretic also.[13]

Yavani – It is bitter, pungent in taste, hot in potency, pungent post digestive action and having *vata-kapha shamak* properties.[13]

Triphala - Due to its *laghu*(Light), *ruksha*(dry) *guna*, *triphala* has the potential to be used as an anti-obesity drug with lipid profile modifying effects. It has a good *deepan* (Appetizer) action; it acts on *tridosha*(Three biological elements). *Triphala* reduces *kapha* and *meda* due to its high concentration of saponins, phytosterols, chebulinic acid, and corilagin, which have hypolipidemic effects in hypercholesteremic circumstances.[13]

Nishottar - It is bitter, pungent in taste, *Laghu and ruksha in guna*, pungent post digestive action, it acts as purgative and laxative agent.[13]

CONCLUSION

As the prevalence of dyslipidaemia is increasing, patients approaching to Ayurvedic physicians for management of dyslipidaemia. Present case of low-risk dyslipidaemia has been successfully treated with Ayurvedic management however further research in this topic is needed.

Conflict of interest: None.

Source of funding: None declared.

ACKNOWLEDGEMENT

The authors are thankful towards the management of Dr. D.Y. Patil college of Ayurved and research centre, Pimpri, Pune for providing necessary support.

REREFENCES

1. Pappan N, Rehman A. Dyslipidemia, Starperals Publishing, 2023 Jan.
2. Gebreegziabiher G, Belachew T, Mehari K, Tamiru D. Prevalence of dyslipidemia and associated risk factors among adult residents of Mekelle City, Northern Ethiopia. *PLoS One*., 2021; 16(2): e0243103. Published 2021 Feb 9. doi:10.1371/journal.pone.0243103
3. Archith B, Ramadas N, Editors. Exam preparatory manual for Undergraduates Medicine. 3 rd ed. New Delhi: Jaypee brothers medical publishers, 2021.
4. Dennis LK, Stephen LH, Larry J, Anthony SF, Dan LL, Joseph L, Editors. Harrison's ™ principles of internal medicine. 19th ed. Volume 2. New York; Mc Graw Hill education, 2015.
5. Walker BR, Colledge NR, Ralston SH, Penman ID. Davidsons Principles and Practice of medicine 22ed. New York: Churchill Livingstone e;sevier, 2014.
6. Walker BR, Colledge NR, Ralston SH, Penman ID. Davidsons Principles and Practice of medicine 22ed. New York: Churchill Livingstone e;sevier, 2014.
7. Kumar G., Srivastava A, Sharma SK, Gupta YK. The hypolipidemic activity of Ayurvedic medicine, Arogyavardhini vati in Triton WR-1339-induced hyperlipidemic rats: A comparison with fenofibrate. *J Ayurveda Integr Med*., 2013; 4(3): 165-170. doi:10.4103/0975-9476.118707

8. Kushwaha H editor, (1 st ed). Caraksamhita, Sutrasthan; Santarpaniya Adhyaya; Varanasi: Chowkhambha Orientalia, 2009.
9. Walker BR, Colledge NR, Ralston SH, Penman ID. Davidsons Principles and Practice of medicine 22ed. New York: Churchill Livingstone e;sevier, 2014.
10. Singh G, Vijayalakshmi S, Muralidhara. Concept of dyslipidaemia in Ayurveda and its management A Conceptual study. Int. A Me Jou 23205091.
11. Deshpande, Javalgekar RR, Ranade S, editors. Dravyagunavigyan (Part 1 and 2) (Marathi). Pune: Profishunt publishing house, 2015; 2016.
12. Kumar G, Srivastava A, Sharma SK, Gupta YK. The hypolipidemic activity of Ayurvedic medicine, Arogyavardhini vati in Triton WR-1339-induced hyperlipidemic rats: A comparison with fenofibrate. *J Ayurveda Integr Med*., 2013; 4(3): 165-170. doi:10.4103/0975-9476.118707
13. Deshpande, Javalgekar RR, Ranade S, editors. Dravyagunavigyan (Part 1 and 2) (Marathi). Pune: Profishunt publishing house, 2015; 2016.