



RESEARCH ARTICLE

AYURVEDIC PERSPECTIVES ON DYSLIPIDEMIA (MEDOROGA): A COMPREHENSIVE REVIEW

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Abstract

Background: Dyslipidemia is a common metabolic disorder associated with abnormal lipid levels and is a well-recognized risk factor for cardiovascular diseases. Although it is not described as an independent disease in Ayurveda, its etiopathogenesis and clinical features closely resemble those of Medoroga and Santarpanajanya Vyadhi.

Objective: To provide a comprehensive review of the Ayurvedic understanding of dyslipidemia (Medoroga) and explore the role of Ayurvedic principles in its prevention and management.

Methods: This narrative review was conducted by systematically searching and critically analyzing classical Ayurvedic texts, standard medical textbooks, and scientific literature retrieved from PubMed, Google Scholar, and other relevant scientific databases. Keywords such as Dyslipidemia, Hyperlipidemia, Medoroga, Meda Dhatu, Medovaha Srotas, and Ayurveda were used. Relevant review articles, clinical studies, experimental studies, and authentic Ayurvedic references published in English were included. Irrelevant and duplicate articles were excluded.

Results: Ayurvedic literature suggests that impaired Agni, the formation of Ama, aggravation of Kapha Dosha, and vitiation of Meda Dhatu play a key role in the development of Medoroga. Management focuses on correcting these underlying metabolic disturbances through Nidana Parivarjana, Deepana, Pachana, Shodhana, Shamana, Rasayana therapy, and appropriate dietary and lifestyle modifications. In addition, several Ayurvedic formulations and medicinal plants with Medohara and Lekhana properties have shown potential in improving lipid metabolism and reducing cardiovascular risk.

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Conclusion: Although dyslipidemia remains a major metabolic health challenge, Ayurveda offers a holistic perspective by focusing on correcting the root cause of the disorder rather than simply controlling abnormal lipid levels. The integration of Ayurvedic principles with healthy dietary habits and lifestyle modifications may promote long-term metabolic well-being and help prevent cardiovascular complications. However, further high-quality clinical research is needed to establish stronger scientific evidence for the effectiveness of Ayurvedic interventions.

Introduction:-

The human way of life is rapidly evolving, affecting dietary habits, living standards, and environmental conditions. These changes, along with sedentary lifestyle patterns, have led to a significant rise in metabolic disorders.¹ Dyslipidemia is one of the metabolic disorders related to lipoprotein metabolism and is characterised by elevated levels of total cholesterol, triglycerides, and low-density lipoprotein (LDL) along with decreased high-density lipoprotein (HDL). It is considered a major risk factor for cardiovascular diseases, diabetes mellitus, hypertension, and atherosclerosis.²

According to the World Health Organization (WHO), high cholesterol was reported as one of the major risk factors for non-communicable diseases in 2002.³ Recent studies conducted by ICMR-INDIAB have also reported increasing prevalence of Dyslipidemia in both urban and rural populations of India.⁴ The growing burden of Dyslipidemia has emerged as a major public health concern because of its strong association with cardiovascular morbidity and mortality. Early identification and comprehensive management are essential to prevent long-term complications. While conventional lipid-lowering drugs are effective, their long-term use may be associated with adverse effects in some patients. Therefore, there is increasing interest in evidence-based Ayurvedic interventions that emphasize correction of metabolic dysfunction through individualized dietary regulation, lifestyle modification, and herbal therapeutics.

In Ayurvedic texts, Dyslipidemia can be correlated with Medoroga and Santarpanajanya Vyadhi on the basis of similarities in etiology, pathology, and symptomatology. Factors such as Avyayama, Divaswapna, overeating, excessive intake of Guru and Snigdha Ahara, alcohol consumption, and sedentary lifestyle disturb normal metabolism and lead to Meda Dushti². Medoroga is commonly observed in affluent societies and is increasingly prevalent worldwide. Medoroga is a disorder of Medovahasrotasa as per Ayurvedic concept characterized by deposition of Meda at the site of Sphika (buttocks), Udara (abdomen), Stana (breast) and all over body⁵.

Ayurveda emphasises a holistic approach for the management of Dyslipidemia through correction of Agni, elimination of Ama, purification of Medovaha Srotas, and proper Ahara-Vihara. Therapies possessing Deepana, Pachana, Lekhana, and Medohara properties help restore metabolic balance and prevent complications associated with Dyslipidemia. Therefore, the present review aims to explore the Ayurvedic understanding of Dyslipidemia (Medoroga) and highlight the role of Ayurvedic principles in its prevention and management.

Ayurvedic Review:-

Concept of Dyslipidemia in Ayurveda:-

Dyslipidemia is not described as an independent disease entity in the classical Ayurvedic texts. However, based on its etiological factors, pathogenesis, and clinical manifestations, it can be correlated with Medoroga, Medodushti, and Santarpanajanya Vyadhi. In Ayurveda, the pathogenesis of Medoroga is believed to originate from Agnimandya, which impairs normal digestion and metabolism. The resulting formation of Ama, along with Kapha Dosha aggravation and Meda Dhatu vitiation, disturbs lipid metabolism and ultimately leads to excessive fat accumulation. Various Ayurvedic scholars have also correlated Dyslipidemia with Rasagata Sneha Vriddhi, Rakta-Rasagata Sneha Vriddhi, and Medovriddhi.²

Concept of Meda Dhatu:-

Meda Dhatu is one of the seven fundamental body tissues (Sapta Dhatus) responsible for lubrication, energy storage, structural stability, and nourishment of the body. According to Acharya Sushruta, Sneha is an essential component required for maintaining normal physiological functions. Disturbance in the metabolism of Meda Dhatu leads to excessive fat accumulation, impaired tissue metabolism, and metabolic disorders such as Medoroga.⁶

Functions of Meda Dhatu:-

According to Ayurveda, Meda Dhatu plays an important role in maintaining the body's structural integrity and metabolic functions. It is responsible for providing unctuousness (Snehana), supporting sweat formation (Sweda),

nourishing Asthi Dhatu, maintaining body strength (Dridhata), and lubricating various organs and tissues. Proper balance and functioning of Meda Dhatu are essential for normal metabolism and overall physiological homeostasis.⁷

Nidana of Medoroga:-

The etiological factors responsible for Medoroga are broadly classified into Aharaja, Viharaja, and Manasika Nidana:-

- Aharaja Nidana: Excessive consumption of Guru, Snigdha, Madhura Ahara, overeating, alcohol intake, and high-calorie foods.
- Viharaja Nidana: Physical inactivity (Avyayama), day sleep (Divaswapna), sedentary lifestyle, and lack of exercise.
- Manasika Nidana: Chronic psychological stress and unhealthy behavioural patterns.⁸

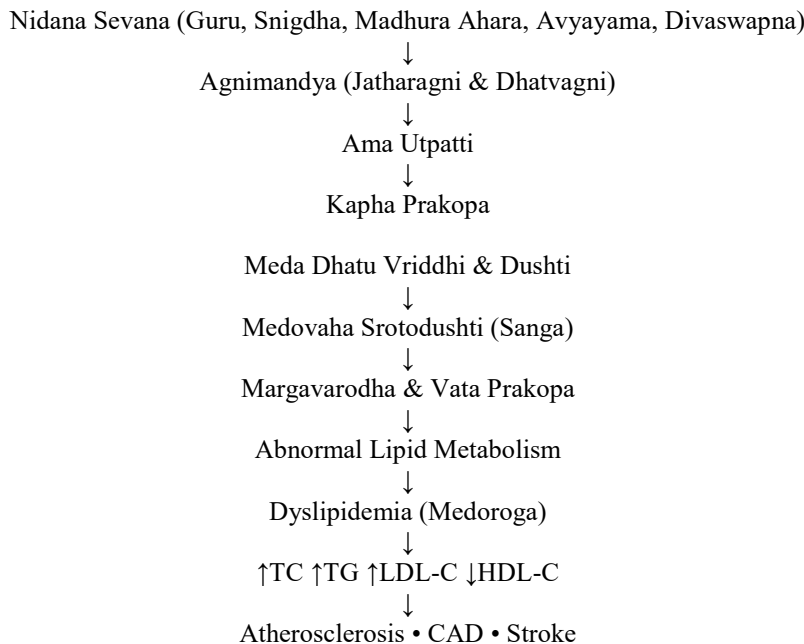
These factors impair Agni, promote Ama formation, aggravate Kapha Dosha, and ultimately cause Meda Dhatu Dushti and Medovaha Srotodushti.

Samprapati.

The overproduction of Medo Dhatu, which can result from dietary factors, behavioural factors, or genetic and hereditary factors, leads to various complications. Excessive Medo Dhatu causes margavarodh (blockage of channels) and depletion of other Dhatus (tissues), along with the provocation of Vayu (air element). This provocation of Vayu increases false appetite, leading to overeating. Consequently, the excessive consumption of food further contributes to the overproduction of Medo Dhatu, creating a cyclical pattern of imbalance.

These interconnected factors highlight the intricate balance within the body's functional dynamics and underscore the importance of maintaining a harmonious equilibrium to promote overall well-being.

Figure 1. Samprapti Chakra of Medoroga (Dyslipidemia)⁹:-



Lakshana of Medoroga:-

According to Madhava Nidana, Medoroga is characterized by symptoms such as Kshudra Swasa (dyspnoea on exertion), Angagaurava (heaviness of the body), Atikshudha (excessive appetite), Swedadhikya (excessive sweating), Trishna (increased thirst), Alasya (lethargy), and excessive deposition of body fat. These clinical features indicate disturbed metabolism, Meda Dushti, and dysfunctioning of Medovaha Srotas.⁸

Modern Review:-**Definition:-**

Dyslipidemia is a disorder of lipoprotein metabolism, which can include overproduction or deficiency of lipoproteins or both. The disorder can manifest as an elevation of plasma cholesterol, TGs, or both, or a low high-density lipoprotein level or all three together that contribute to the development of atherosclerosis¹⁰.

Classification:-**Primary Dyslipidemia:-**

Occurs due to genetic defects affecting lipid metabolism.

Secondary Dyslipidemia:-

Secondary Dyslipidemia develops as a consequence of underlying conditions or lifestyle factors. It is commonly associated with sedentary lifestyle, obesity, diabetes mellitus, hypothyroidism, excessive alcohol consumption, and the use of certain medications. These factors adversely affect lipid metabolism and contribute to abnormal serum lipid levels, thereby increasing the risk of cardiovascular diseases⁹.

Risk Factors:-**The major risk factors associated with dyslipidemia include:-**

- Unhealthy dietary habits
- Physical inactivity
- Obesity and central adiposity
- Diabetes mellitus
- Hypertension
- Smoking
- Excessive alcohol consumption
- Psychological stress
- Increasing age
- Family history of dyslipidemia

Clinical Features:-

Signs of Dyslipidemia include xanthelasma, xanthoma, and excessive fat deposition. Symptoms commonly include chest tightness, breathlessness, generalized weakness, excessive sweating, and obesity⁹.

According to guidelines of NCEP ATP III (National Cholesterol Education Programme)¹¹:-

Table:1 Adult Treatment Panel III

Serum lipoprotein	Fasting values (mg/dl)	Interpretations
• Total cholesterol	< 200 200-239 >or=240	Desirable Borderline high High
• LDL cholesterol	<100 100-129 130-159 160-189 >or=190	Optimal Near –optimal Borderline high High Very high
• HDL cholesterol	<40 >or=60	Low High
• Triglycerides	150 150-199 200-499 >or=500	Normal Borderline high High Very high

Diagnosis:-

The diagnosis of dyslipidemia is primarily based on fasting lipid profile assessment, which includes:

- Total Cholesterol (TC)
- Low-Density Lipoprotein Cholesterol (LDL-C)

- High-Density Lipoprotein Cholesterol (HDL-C)
- Triglycerides (TG)
- Very Low-Density Lipoprotein (VLDL)

Routine evaluation should also include blood glucose, thyroid function tests, liver function tests, and renal function tests to identify secondary causes.

Updrava:-

The complications (Updrava) of Medoroga include Prameha Pidaka, Jwara, Bhagandara, Vidradhi, Vatavikara. These complications arise due to chronic Meda Dushti, impaired Agni and progressive metabolic dysfunction¹².

Chikitsa:-

- Nidana Parivarjana (elimination of the causative factors)
- Shodhana (purificatory therapies or detoxification)
- Shamana (palliative or conservative treatments)
- Pathyapathya ahara and Vihara (wholesome and unwholesome food and regimens)
- Rasayana (rejuvenation therapy)

Nidana parivarjana:-

Prime importance should be given to Nidana Parivarjana by avoiding Aharatmaka, Viharatmaka, and Manasika Nidanas.

Shodhana: Shodhana therapy plays a vital role in the management of Medoroga, particularly in patients with adequate strength (Bala)¹³. It helps eliminate aggravated Doshas, improve metabolic function, and restore the normal physiology of Medovaha Srotas. Ruksha Udavartan (bahya shodhana) is recommended for sthool purusha¹⁴. It is Kaphahara and Medasa Pra-vilayana in action. Abhyantara shodhana employed for the patient include Vamana, virechana, rakatmokshana¹⁵. Ruksha, Tikshna and Ushna basti¹⁶. It helps in removing out the excessive collected meda and kapha from the body and also pacifies the other two doshas.

Shamana: The best line of treatment for Medoroga in Ayurveda is the use of Guru and Apatarpana Chikitsā (lightening or depletion therapy)¹⁶. Chakrapāṇi states that the Guru Guṇa (heavy quality) helps to balance Agni and Vāta, which are usually upset in Medoroga. Excessive nutrition is reduced by Apatarpana therapy resulting to the elimination of excess Medas (fat tissue). Among the Ṣaḍupakrama (six therapeutic principles) Langhana (lightening therapy) and Rūkṣaṇa (drying therapy) are highly applicable in the management of Medoroga.

Also Shamana Chikitsa (palliative treatment) can be done via seven various methods:-

- Deepana (appetite-stimulating),
- Pachana (digestive),
- Kṣut (controlled fasting),
- Tr̥ṣ (thirst-inducing),
- Vyayama (exercise),
- Maruta (exposure to air), and
- Atapa (sun exposure)

Deepana-Deepana dravyas are mostly composed of Agni and Vayu Mahabhutas which are hostile to the constitution of Meda and Kapha. Jala and Prithvi Mahabhoot.

Kshudha and Trishanigraha- Fasting is also useful because food is the main source of Nutrition for Meda dhatu. Fasting controls the overproduction of medadhatu. Hence, kshudha nigrahan has been prescribed for fat people. Those who have difficulty in completely fasting may observe alpa ahaar sevan. small quantities of lukewarm water are good for obese person. From the word control of thirst it can be said that fat person should avoid sweet and soft beverages, nutri-tious fruit juice and cold water.

Vyayama- Avyayam is one of the reason of medoroga and hence, significance has been given to Vyayam in the management of medoroga. It acts like Nidana Parivarjan. also it melts the excess fat produced in the fat depots of the obese.

Atapa and Marutasevan- It increases heat in the body. This raised body heat reduces Meda by Vibhajana and Vilayan. It improves Kleda Vilayana and assists in weight loss. Vata sevana is also useful as the Ruksha Guna of Vata reduces Kleda and Kapha via Shoshana and Stimulation Jatharagni.

Rasayanas for Medoroga: Rasayana is formed from Rasa (nutritive fluid/tissues) and Ayana (nutrition) signifying therapies that nourish and regenerate the body tissues. In the management of Medoroga the treatment begins with Ama Pachana, Deepana and Srotoshodhana to boost the metabolism and to clear the channels of the body. Then Rasayana therapy is delivered to regenerate the tissues, restore the metabolic balance and improve the general health.¹⁷

Guduchi (Tinospora cordifolia):-

Guduchi is a Tridosha Shamaka Rasayana with Tikta, Katu and Kashaya Rasa. It promotes Agni, decreases Kapha-Meda and beneficial in Santarpanajanya Vikaras.

Guggulu:-

Guggulu has Tikta, Kashaya and Katu Rasa with Ushna Virya. It acts as Srotoshodhaka, Deepana and Medohara due to its Laghu and Sookshma properties.

Shilajatu:-

Shilajatu is having Katu-Tikta Rasa and Ushna Virya. It has Yogavahi and Chedana qualities which helps in Ama Pachana and Meda reduction.

Triphala:-

Triphala comprises of Haritaki, Bibhitaki, and Amalaki. It acts as Rasayana, Vatanulomaka, and Medohara while balancing Kapha and Pitta.

Bhallataka:-

Bhallataka is chiefly indicated in Kaphaja Rogas. It has Kashaya Rasa and Ushna Virya, improves Agni and aids fat metabolism through Kapha-Medohara action.

Rasanjana:-

Rasanjana is an important medication for medoroga. It has properties of Katu-Tikta Rasa, Ushna Virya and Chedana which helps in lowering the excess of Medas. Several Ayurvedic formulations possessing Deepana, Pachana, Lekhana, Medohara, and Rasayana properties have shown promising hypolipidemic and antioxidant activities in experimental and clinical studies.

Table :2 Pathya/ Apathya

Pathya	Apathya
Barley, Mudga	Fried foods
Takra	Junk Food
Green vegetables	Bakery products
Exercise	Day sleep
Yoga	Sugary drinks
Warm water	Sedentary Lifestyle

Discussion:-

Dyslipidemia is one of the leading metabolic disorders worldwide and represents a major risk factor for cardiovascular diseases, including coronary artery disease, stroke, and atherosclerosis². Rapid urbanization, unhealthy dietary habits, physical inactivity, obesity, and psychological stress have contributed significantly to its increasing prevalence. Although conventional lipid-lowering agents effectively reduce serum lipid levels, long-term therapy may be associated with adverse effects in some individuals, highlighting the need for safe and holistic therapeutic approaches.

From an Ayurvedic perspective, Dyslipidemia can be correlated with Medoroga and Santarpanajanya Vyadhi based on similarities in etiological factors, pathogenesis, and clinical manifestations. Excessive intake of Guru, Snigdha, and Madhura Ahara, along with Avyayama (physical inactivity) and Divaswapna (daytime sleep), leads to

Agnimandya, Ama formation, Kapha aggravation, and Meda Dhatu Dushti². In Ayurveda, Agni Mandya is regarded as the primary pathogenic factor in Medoroga. Impairment of Jatharagni and Medodhatvagni leads to the formation of Ama, which subsequently associates with Meda Dhatu to form Ama Meda. This process disturbs normal lipid metabolism and promotes excessive accumulation of adipose tissue.¹⁸

Unlike conventional therapies that mainly focus on lowering serum lipid levels, Ayurveda emphasizes correcting the underlying metabolic disturbances responsible for the disease. Therapeutic measures such as Nidana Parivarjana, Deepana, Pachana, Shodhana, Shamana, and Rasayana are intended to improve Agni, eliminate Ama, restore the normal function of Medovaha Srotas, and support healthy Meda Dhatu metabolism. By addressing the root cause of the disorder, these interventions may help improve lipid metabolism and reduce the likelihood of disease progression.

Several Ayurvedic medicinal plants, including Guduchi (*Tinospora cordifolia*), Guggulu (*Commiphora mukul*), Triphala, Shilajatu, and Bhallataka, have demonstrated Medohara, Lekhana, antioxidant, anti-inflammatory, and hypolipidemic activities in experimental and clinical studies. These findings suggest that such herbal interventions may have a beneficial role in improving lipid metabolism and supporting overall metabolic health¹⁷.

Although several published studies have reported encouraging results with Ayurvedic interventions in the management of dyslipidemia, the available evidence is still limited. Most studies have been conducted on relatively small sample sizes and for short durations. In addition, differences in study design, treatment protocols, and assessment methods make it difficult to compare the findings directly. Despite these limitations, the overall evidence indicates that Ayurveda has the potential to improve lipid metabolism by correcting the underlying metabolic disturbances rather than merely lowering serum lipid levels. With its emphasis on Nidana Parivarjana, Deepana, Pachana, Shodhana, Shamana, and Rasayana therapies, Ayurveda offers a comprehensive approach to the management of dyslipidemia. However, further well-designed multicenter clinical studies with larger sample sizes and longer follow-up are required to generate stronger scientific evidence and support the wider clinical application of Ayurvedic interventions.

Conclusion:-

Dyslipidemia shares considerable similarities with Medoroga in terms of its etiological factors, pathogenesis, and clinical manifestations. From an Ayurvedic perspective, the disorder develops due to Agnimandya, Ama formation, Kapha Dosha aggravation, and Meda Dhatu Dushti, which collectively disturb normal lipid metabolism. Management focuses on correcting these underlying abnormalities through Nidana Parivarjana, Shodhana, Shamana, Rasayana therapy, along with appropriate dietary and lifestyle modifications. Such an approach aims to improve metabolic function while addressing the root cause of the disease rather than merely controlling serum lipid levels. Although the available evidence is encouraging, further well-designed clinical studies are required to establish the efficacy and safety of Ayurvedic interventions and support their broader integration into evidence-based healthcare.

Summary Points:-

- Dyslipidemia can be correlated with Medoroga based on similarity in etiopathogenesis and clinical manifestations.
- Agnimandya, Ama, Kapha Dosha, and Meda Dhatu Dushti play major roles in disease development.
- Nidana Parivarjana remains the first step in management.
- Deepana, Pachana, Shodhana, Shamana, and Rasayana therapies help restore normal lipid metabolism.
- Proper diet, exercise, and lifestyle modifications are essential.
- More high-quality clinical studies are needed to strengthen scientific evidence.

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