

## AYURVEDA MANAGEMENT OF MEDO DUSTHI W.S.R. TO DYSLIPIDEMIA - A CONCEPTUAL STUDY

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## ABSTRACT

The *Medo Roga* disease has expanded throughout India as the nation's economy grows. Our everyday diet has an impact on how healthy we are. However, the *Medo Roga* spreads more quickly since many individuals want to eat more and exercise less. Nowadays, a stressed lifestyle, increased junk food intake, and changing lifestyles are all contributing factors to the rise in obesity. Recent research indicates that 15-20% of people in rural areas and 25-30% of subjects in metropolitan areas have high cholesterol. Compared to high-income countries, this prevalence is lower in low-income countries. Numerous lifestyle disorders, including osteoarthritis, dyslipidaemia, hyperlipidaemia, and malnutrition, may be brought on by this detrimental health effect. Dyslipidaemia is a significant lifestyle condition in today's fast-paced environment. Our classics have extensively detailed the consequences and perils of *Medo Vikriti*. *Aaharatmak*, *Viharatmak*, *Manasika*, and other etiological factors like *Bijabhava* (hereditary) are among the many causes of *Medoroga*, which is essentially an Agni imbalance. Ayurvedic literature does not use the term dyslipidaemia; instead, they identify the attributes of *Sneha Dravya* as *Medodhatu*.

**Keywords:** *Ayurveda*, dyslipidemia, *Medoroga*, lifestyle disorder.

## INTRODUCTION

Although *Meda* is mainly found in *Udara*, some parts are also found in *Mansa* and *Brihat Asthi*. When

*Meda* is seen inside *Anu Asthi* (little bones), it is called *Sarakta Meda*; when it is found inside *Sthula*

*Asthi* (big bones), it is called *Majja*. The pure form of Meda found within the *Mansa (Peshi)* is called *Vasa*. Therefore, all lipids can be connected to *Meda, Vasa,* and *Majja*.

There are two types of *Medo dushti*-

1. *Meda Dhatu Vridhi*
2. *Meda Dhatu Kshaya*

In this article, we discuss Medo Dhatu Vridhi in relation to dyslipidaemia. However, Medo Dhatu is more significant than the others since it causes several metabolic diseases, including *Medoroga* (hyperlipidaemia). The illness associated with *Medo Dhatu Dushti* is sometimes called "*medoroga*." *Medo dushti* is the abnormal buildup of Meda Dhatu in the body due to *Agnimandya* and metabolic disorders. The most significant cause of *Medoroga (Sthaulya)* is an unbalanced diet and sedentary lifestyle. A class of diseases known as dyslipidaemias impact the metabolism of lipoproteins. The development of cardiovascular disease (CVD) has been linked to dyslipidaemia as a distinct risk factor. Cardiovascular diseases (CVDs) are the primary cause of morbidity and mortality in both developed and developing nations. The association between dyslipidaemia and type 2 diabetes mellitus (DM) as a co-morbidity for cardiovascular events that ultimately result in a high death rate is causing the medical community to become more and more concerned. The most complicated and deadly conditions, such as coronary artery disease, ischaemia (which makes up 56% of all I.H.D. cases), cerebrovascular accidents, myocardial infarction (18% of all CVD cases), arthritis, and a host of other illnesses like hypertension, which can cause damage to multiple organs, are increasingly being caused by dyslipidaemia. Clinically, dyslipidaemias are defined by decreased HDL cholesterol and elevated plasma levels of triglycerides, cholesterol, or both. Hyperlipidaemias, or blood lipid elevations brought on by diet and lifestyle choices, account for most dyslipidaemias in developed nations. Hyperlipidaemia is the most common form of dyslipidaemia. Because there are no obvious symptoms, hyperlipidaemia is thought to be a silent killer because it is hard for the patient to recognise on their own. Dyslipidaemia is significant

since it is associated with risk factors like diabetes, metabolic syndrome, obesity, and potentially fatal outcomes like cardiovascular disease (CVD). Most dyslipidaemia patients have a mix of environmental (drug, lifestyle, or medical condition) and genetic (typically polygenic) variables that contribute to their illness.

#### **Aim and objective-**

The present study has the following goals and objectives-

- To examine the literature on Ayurveda and its relationship to contemporary literature and investigate the Medo Dusti in relation to dyslipidaemia.
- To assess the connection between dyslipidaemia and *Medo Dushti*.

#### **Material and methods-**

In Brihatrayi and Laghutrayi, Medo Dushti briefly discussed the aetiology, causal factors, signs, and symptoms in classical Ayurvedic literature. This review includes a few Ayurvedic texts, contemporary literature, research articles, and PUBMED.

#### **Medo Dhatu-**

Two types of Meda (Fat) are described in Ayurveda<sup>1</sup>:-

- *Baddha Meda* (immobile/bounded): The non-mobile fat deposited in different locations (fat depots, the body's muscles, and the omentum) as fat.
- *Abaddha Meda*, which means "unbounded/movable," refers to mobile fat that circulates in the body as lipids (such as cholesterol, triglycerides, LDL, HDL, and VLDL) along with blood.

#### **Karma of Medo Dhatu –**

As Acharya Sushruta states, Snehana (oiliness/lustre of skin, hair, eyes, etc.), Sweda (sweat), Dridhatva (strength), Asthipushti (strengthening of bones), and *Netra Gatra Snigdhatva* (oiliness of eyes and body) are the main functions of Medo Dhatu.

Acharya Madhav first used *Medoroga* to define obesity and related lipid complications. It means a disease in which *Medodhatu* is deranged.

Meda is also regarded as the primary *Dushya* in Ayurveda while discussing other illnesses, such as

*Prameha, Medoroga, and Sthaulya*. The Metabolic Syndrome is characterised by the presence of abnormal Meda in subcutaneous tissue, which leads to the clinical presentation of obesity. Similarly, when incompact *Meda (Abadha)* is extracted to Basti (urinary system), it causes *Prameha (D.M.)* manifestations. When this Meda is unnaturally deposited in the arterial wall, it increases peripheral resistance (*Dhamnipratichaya/arteriosclerosis*), which leads to clinical manifestations such as hypertension. When these unnatural Meda are present in the *Rakta-vaha srotas (CVS)*, it causes an increase in undesired fat levels known as hypercholesterolaemia.

#### **Causes of Medo Dushti-**

The most common cause of *Medoroga* is an unbalanced diet and a sedentary lifestyle (*Sthaulya*). The following are the etiological factors of *Medoroga*:

1. *Aharaj Nidan (Dietary Factors)*: Overeating, frequent eating, excessive *Madhur, Sheeta, Guru Ahara, Shleshma dravya Ahara, Ati Med Ahara, Ati Madya (Liquors) sevan*, excessive bakery products, and so on are examples of incorrect eating methods.
2. *Manasika Nidana (Behavioral Factors)*: Most metabolic disorders are caused by a change in lifestyle. These are caused by daytime sleeping, lack of exercise, lack of thinking, exhilaration, and sedentary habits.
3. *Bija Doshaja (Genetic or Hereditary Factors)*: These factors play an essential role in the development of *Medoroga (Sthaulya)*.<sup>2</sup>
4. *Mithya Karma (Improper Therapeutic Application)*: *Santarpana* (weight gain therapy) may be given to *Medoroga (Sthaulya)*.<sup>3</sup>

#### **Samprapti-**

*Medoroga* is caused by the *Dushti of Medo Dhatu*, which involves the complex consequential process of *Medo vridhhi*. Acharya Madhav described its pathogenesis as follows-

1. Excessive production of Medo Dhatu (due to dietary factors, behavioural factors, genetic or hereditary factors)
2. Excessive Medo Dhatu leads to *margavarodha*, depletion of other Dhatus, and provocation of Vayu.

3. Provocation of Vayu causes an increase in false appetite, which leads to overeating.
4. Excessive consumption of food leads to excessive Medo Dhatu production.

#### **Rupa-**

Excessive fat and flesh buildup causes ugliness, including breasts, abdomen, and buttocks, as well as decreased energy, making the person less inclined to exercise. The Charaka Samhita lists eight *Medo Roga* deficits in addition to these fundamental symptoms, each with a thorough aetiology. Reduced life expectancy due to other Dhatus not receiving enough nourishment is known as *Ayushohrasa (Diminution of Lifespan)*.<sup>4</sup>

- *Javaparodha (Lack of enthusiasm)* –
- *Kricchavyavayata (Difficulty in sexual activity)*
- *Daurbalya (Debility)* –
- *Daugandhya (Foul smell from the body)* –
- *Swedabadha (Distressful sweating)* –
- *Kshudhatimatra (Excessive hunger)*
- *Pipasatiyoga (Excessive thirst)*

#### **Dyslipidemia-**

Dyslipidemia is a disorder of lipoprotein metabolism, including lipoprotein overproduction or deficiency. These disorders may be manifested by an elevation of the serum total cholesterol, LDL and triglyceride concentration and a decrease in the HDL cholesterol concentration.<sup>5</sup>

#### **Risk Factor-<sup>6</sup>**

Important Modifiable Risk Factor for Dyslipidemia: several behaviours can lead to dyslipidemia.

1. Cigarette smoking
2. Obesity and sedentary lifestyle
3. Consumption of foods high in saturated fat and trans fat
4. Excessive alcohol consumption may also contribute to higher triglyceride levels.
5. Genetical cause
6. Advanced age.

#### **Types of Dyslipidemias**

Dyslipidemia is divided into primary and secondary types.<sup>7</sup>

1. Primary – Inherited or Familial Dyslipidemias
2. Secondary - Acquired

Among the specific types of primary dyslipidemia are-

- a) Familial combined dyslipidemia
- b) Familial hypercholesterolemia
- c) Familial hyperapobetalipoproteinemia

**Symptoms-**

- High blood pressure
- Coronary artery diseases
- Diabetes
- PAD (pulmonary artery disease)
- Obesity
- Abdominal pain
- Acute pancreatitis
- Chronic kidney disease

- Chest pain
- Stoke
- Dizziness
- Calf muscle pain during walking
- Dyspnea
- Confusion.

**According to the guidelines of NCEP ATP III: Dyslipidemia**

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

**The similarity between Meda and lipid-**

Meda	Lipid
Intake of excessive Sneha (Ghrita, Tail, Vasa, Majja) <sup>8</sup>	Intake of a high-fat diet (ghee, oils, butter, etc.) increase body lipids
Dietary intake of excessive Guru Madhur Ras Dravya causes Medoroga <sup>9</sup> .	Increase consumption of carbohydrates (mainly sucrose enhances cholesterol level) <sup>10</sup>

**Management through Ayurved**

*Nidana Parivarjana* (avoidance of causative causes), lifestyle modifications, *Shodhana* (body cleansing), and medication are all part of the management of *Sthaulya*. A healthy diet and regular exercise are cru-

cial components of treatment. According to Acharya Vagbhata, in *Sthula* people, the *Dhatu*s that are formed due to improper metabolism, such as *Mamsa*, *Shonita* (blood), *Asthi* (bone tissue), etc., are *Durbaddha* (abnormal). As a result, *Shodhana* is adopted based on the patient's *Bala* (strength) to remove the

accumulated toxins and toxic metabolites from the body. After that, the patient is given a choice of medications, ranging from milder to more potent ones they can tolerate. *Udvardhana* (dry powder massage) and *Takradhara* (therapeutic use of medicated buttermilk) with *Vamana* (therapeutic emesis) and *Virechana* (therapeutic purgation) can be adopted. Then, *Medohara Dravya* (fat-reducing medicines) like *Guggulu* preparations or other oral medication can be given. As obesity is generally related to multiple co-morbidities, therefore, risk factors should be assessed while planning treatment. Depending on the Avastha of the patient and the cause involved, *Guru Apatarpana Chikitsa* can be given. *Vatahara Annapana* like *Yava*, *Sattu* etc. can be given. *Rooksha Udvardhana with Triphala Churna*, *Sudarshana Churna*, etc., can be adopted. Acharyas mention *Teekshna and Lekhana Basti with drugs like Trikatu, etc.*, for the management of Sthaulya. *Guduchi (Tinospora cordifolia)*, being a Rasayana, improves immunity and metabolism and helps burn more fat. *Musta (Cyperus rotundus)*, due to its *Tikta Katu Rasa*, *Laghu Ruksha Guna*, burns and metabolizes fat and has anti-obesity activity. Acharyas have cited *Shilajatu (Asphaltum)* as one of the potent *Medohara* drugs with *Rasayana* qualities. Panchakarma techniques such as *Vamana*, *Virechana*, and *Lekhana Basti* are shown to be helpful in cleansing the body. Many references to *Guggulu (Commiphora mukul)* can be found in Samhitas, and preparations such as *Navaka Guggulu* have analgesic, anti-inflammatory, and antihyperlipidemic properties.

## DISCUSSION

In addition to making a person less energetic and less engaged in physical activity, excess fat and flesh can result in ugly features like pendulous breasts, abdomen, and buttocks.<sup>11</sup> Acharya Charak categorises *Medoroga* as *Atisthaulya*, explaining that the *dushti* of *Medovaha Srotas* is the cause of *Atisthaulya*, which is a synonym for *Medoroga*. Acharya Madhava discussed *Medoroga* and its origins. According to him, *Medo dushti* is the body's abnormal buildup of Medo Dhatu. *Medoroga* is the collective

name for *Medo dushti*, composed of several other *Medo Vikaras*. An irregular and uneven distribution or accumulation of Medo Dhatu within the body is known as *medoroga*. Madhukoshkara<sup>12</sup> and Bhavamishra<sup>13</sup> support this notion by describing various chapters of *Medoroga*. In the 34th chapter, Madhavakara describes the disease under the title of *Medoroga*, using the words *Medaswina*<sup>14</sup>, *Atisthula*<sup>15</sup>, and *Sthula*<sup>16</sup> as synonyms. *Madhavakara* highlighted *Nidana* and *Rupa* and painted a detailed image of *Medoroga*, incorporating all prior authors' ideas. As the *Meda Avrita Vata* first circulates in the Antra (intestine) of *Agnipradeepana*, food is digested more quickly, and patients tend to eat more during this stage because they are hungrier. At this *Aaharakaal Atikramana* stage, overeating food can result in *Sthaulya*, and eating too little can result in several co-morbidities and diseases.<sup>17,18</sup> The Agni (digestive fire) is diminished in the later stages of the disease, leading to an abnormal metabolism. The production of *Durbadha Dhatu* (poor quality of Dhatus) results from the formation of more *Medadhatu* and the lack of significant sustenance for other Dhatus.

## CONCLUSION

A disorder known as dyslipidaemia occurs when the body's lipid levels are abnormal. Finding the exact cause of obesity is difficult because there may be several contributing factors. The National Heart, Lung, and Blood Institute has established guidelines for appropriate screening, which is frequently the focus of evaluation and treatment. The main objective of the therapy is to reduce the risk of co-morbidities associated with obesity. The indications, symptoms, and etiological causes of dyslipidaemia and *medoroga* are nearly identical. Agni is in charge of the metabolic functions of the body. *Poshak's* excessive homologues, the sickness known as *medo dhatwagni mandya*, which can be used to characterise a state similar to dyslipidaemia, cause *Medodhatu* circulation. The kind of lipid issue dictates the course of treatment. There is no particular word for dyslipidaemia in the old Ayurvedic texts. *Vatashamaka Ahara*, *Ruksha Udvardhana* (dry powder massage), and

Panchakarma body cleansing techniques like *Teekshna Lekhana Basti*, *Vamana*, and *Virechana* are all used in Ayurveda. There are references to oral medications such as *triphala*, *Guggulu* (*Commiphora mukul*) formulations, etc. Dyslipidaemia is one of the biomedically characterised clinical diseases that have been treated with the Ayurvedic concept. These theories, such as Medo Dhatu *dushti*, have been employed to gain a better understanding of the aetiology and pathophysiology of dyslipidaemia.

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