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A Concept Of Medoroga And Hyperlipidaemia In Ayurveda: A Scientific Review

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ABSTRACT

Hyperlipidaemia is commonly seen metabolic disorder which is caused due to abnormally elevated levels of some of lipids in the blood. Human body is composed of 7 types of tissues known as Dhatu. Meda is one of those Dhatus and necessary to maintain Snehatwa(lubricity). It can be correlated to lipids in modern science. Some factors present in human body like Vasa and Majja also resembles with lipids. Medo Dhatu is very important as it plays a significant role in developing various metabolic disorders like Obesity, Diabetes Melitus which are already mentioned in Ayurveda as Sthaulya, Prameha those occurs due to excessive Meda. Thus Hyperlipidaemia is correlated with Medoroga in Ayurveda. Now a day, Hyperlipidaemia is one of the major cause of cardiovascular disorders since last two decades and it is a result of the modified lifestyle of a new era. Present study tries to correlate conceptual facts to show relation between lipids and Medo Dhatu.

KEYWORDS: Hyperlipidaemia, Medo Dhatu, Medoroga, Hypercholesterolemia, Ashtauninditiya purush

INTRODUCTION

Lipids are the group of naturally occurring molecules acting as a structural component of various cell membranes. They include fats, sterols, fat soluble vitamins, waxes, etc. All these have common property of Snehatwa (lubricity). As per Ayurveda, human body consists of Medo Dhatu, Vasa and Majja Dhatu. These also show same property of Snehatwa and so lipids can be correlated with these three factors.[1] They show common features but all those are present at different sites and perform different functions.[2] Sneha is essential and offers corpulence to the body when normal, but it leads to born various disorders when it is in a disturbed state in terms of Rasagata Snehavridhi which lead to Medodushti (Dyslipidaemia). Dyslipidaemia includes Hyperlipidaemia, hyper lipo proteinemia which are caused due to abnormally elevated levels of lipoproteins in the blood. These lipids include phospholipids, cholesterol, cholesterol esters, and triglycerides. Lipoproteins are divided into 5 classes on the basis of density as (a) HDL (High-density lipoprotein), (b) LDL (Low-density lipoprotein), (c) IDL (Intermediate density lipoprotein), (d)VLDL(Very low density lipoprotein), (e) chylomicrons. Out of these, increased level of serum HDL does not cause adverse effect over body.

Hyperlipidaemia is one of the major lifestyle modification disorders which is defined as the a increased level of serum one or more of cholesterol, LDL cholesterol, triglycerides or both total cholesterol and triglycerides that contribute to atherosclerosis.[3] Hyperlipidaemias are catogorized as (a) Primary and (b) Secondary subtypes. Primary Hyperlipidaemia occurs due to genetic causes such as a mutation in a receptor protein and Secondary Hyperlipidaemia arises due to other metabolic disorders such as Diabetes Mellitus, Liver disorders, Renal disorders, Thyroid disorders, and Cushing Syndrome, etc. Alcohol consumption, obesity, estrogen administration are the other precipitating factors. Hyperlipidaemia is the main risk factor for ischemic heart disease and coronary mortality. By understanding the concept of lipid on the basis of Meda in Ayurveda, it is necessary to modify lifestyle and follow the rules of diet and behavioural factors as per Ayurveda.

Incidences

Majority of the people are facing the problem of dyslipidaemia all over the world now a day. Incidences of cardiovascular diseases have been increased in India since last three decades. A study by Government of India showed that coronary artery disease (CAD) would be prevalent in 62 million patients approximetly by 2015 in India and 23 million of those would be patients below 40 years of age.[4]

Concept of Meda

Meda is mainly present in Udara but Mansa and Brihat Asthi also consist some of it's part. It is termed as Sarakta Meda when Meda is present inside of Anu Asthi (small bones) and said as Majja when it is present in Sthula Asthi (large bones). Vasa is the pure form of Meda which is present inside the Mansa (Peshi).[5] Thus Meda, Vasa and Majja can be corelated to all forms of lipids. But among these, Medo Dhatu has importance more importance as it is responsible Medoroga (Hyperlipidaemia) and various metabolic disorders.

Medo Dhatu is of two types- (a) Poshak and (b) Poshya

Poshaka Medo Dhatu is circulated in the whole body along with the Rasa and Rakta Dhatu to give nutrition to Poshya Medo Dhatu. Poshya Medo Dhatu is stored in Medodhara Kala which is immobile in nature. The site Medodhara Kala is Udara, Stana, Gala, Anu Asthi and Sphika.

Derangement of Metabolism of Medo Dhatu

1. All metabolic activities happening in the body are carried out by Agni. It is solely responsible for Kshaya and Vriddhi of Dosha, Dhatu or Mala. Due to Agnimandya (Diminished Appetite), food particles are not properly digested and lead to formation of Ama which further lead to various metabolic disorders.
2. In result, Ama cannot be assimilated by the Dhatus. This Ama causes hazards effects according to their presence at different physiological levels.
3. Due to Dhatwagnimandya, the particular Dhatus didn't assimilate nutrients from circulating Poshaka Dhatu. So such Poshaka Dhatu are abnormally collected in Ahara Rasa which is known as Ama and it further collected at different sites of body. This process is said as Linatwa of Ama in Dhatus. So many disorders are caused due to this Linatwa.
4. When the above pathology occurs with Medo Dhatu or when Medo Dhatwagni is impaired; the homologues nutrients present in Poshak Medo Dhatu will be in excess of circulation leads to excess accumulation of abnormal quantities of Poshak Medo Dhatu in Rasa. This condition can be turned to Hyperlipidaemia.
5. Poshak Medo Dhatu cannot be assimilated into Sthayi Medo Dhatu by Medo Dhatwagni leading to excessive Poshak Medo Dhatu in circulation. Any cause which can lead to Kaphavridhi, Pittakshaya or Vataprakop can lead to this condition. The consequences of such increase in Poshak Medo Dhatu may risk the disorders such as Atherosclerosis, Dhamani Pratichaya (Hypertension), etc.[6]

Medoroga

Medoroga is a common term given to the disorder related to Medo Dhatu Dushti. Medodushti is abnormal deposition of Meda Dhatu in body due to disturbances in metabolism and Agnimandya.

Causes

Unbalanced diet combined with sedentary habits is the most important cause of Medoroga (Sthaulya). The etiological factors of Medoroga can be explained as follows:

1. Dietary Factors: These include inappropriate methods of eating like overeating, Frequent eating, excessive Madhur, Sheeta, Guru Ahara, Shleshma dravya Ahara, Ati Med Ahara and Ati Madya (Liquors) sevan, excessive bakery products, etc.
2. Behavioral Factors: Most of the Metabolic Disorders are due to lifestyle modification. Some habits like daytime sleeping, lack of exercise, lack of thinking, exhitartion and sedentary habits are responsible for those.

3. Genetic or Hereditary Factors: These factors play important role in the development of Medoroga (Sthaulya).[7]
4. Improper Therapeutic Application: Santarpana (weight gain therapy) may give to Medoroga (Sthaulya).[8]

Pathogenesis

Medoroga is caused by Dushti of Medo Dhatu which involve complex consequential process of Medovridhhi. Acharya Madhav described its pathogenesis as follows[9]

1. Excessive production of Medo Dhatu (due to dietary factor, behavioral factor, genetic or hereditary factor)
2. Excessive Medo Dhatu lead to margavarodh and depletion of other Dhatus and provocation of Vayu.
3. Provocation of Vayu increases false appetite which lead to excessive consumption of food.
4. Excessive consumption of food lead to excessive Medo Dhatu production.

Different Concepts of Hyperlipidaemia

Hyperlipidaemic condition cannot be directly refer to diseases. Moreover various scholars have their different opinions. Most of them compare Hyperlipidaemia under the heading of Medoroga and some consider it as Rasagata Snehavridhhi, whereas some suggest it under broad term of Ama. So all these conditions are somewhat similar.

Comparison Between Meda And Lipids Sr. No.	Meda	Lipids
1.	Ingestion of excessive Sneha (Ghrita, Tail, Vasa, Majja)[10]	Intake of high fat diet (ghee, oils, butter,etc.) increase body lipids
2.	Dietary intake of excessive Madhur Dravya causes Medoroga[11]	Increase consumption of carbohydrates (specially sucrose enhances cholesterol level)[12]

Comparison Between Medoroga And Hyperlipidaemia[13]

Medoroga		Hyperlipidaemia
Etiological factors	Avyayam, Diwaswapna, Medyanam Atisevan, Ati Varuni sevan	Intake of high fat diet, junk food habits, lack of exercise, genetic predisposition
Clinical features	Medo, Maans Ativriddhi, Flabbiness of buttocks, abdomen and breasts, loss of enthusiasm	Excessive deposition of fats in abdomen, waist, buttock, etc. Excessive appetite, exertional dyspnoea, excessive perspiration, general weakness
Complications	Ayushya rhas, loose and delicate body, Javoparodh, difficulty in mating, Weakness, Excessive sweating with bad odour, frequent thirst and hunger	Decreased life expectancy, Mechanical disabilities, loss of immunity, cardiovascular and cerebrovascular manifestations.

DISCUSSION

1. After studying the above of the facts, Hyperlipidaemia can be correlated with Medoroga. Acharya Charak didn't mention Medoroga separately but instead that he explained Sthaulya which is nothing but Medoroga.[14]
2. Acharya Charak has described Medoroga under the heading of Atisthauya and he explained Atisthauya is due to the dushti of Medovaha Srotas and can be taken as synonym of Medoroga.
3. Acharya Madhava described Medoroga and its etiology. He explained abnormal deposition of Medo Dhatu in the body is termed as Medodushti. Medodushti includes several numbers of other Medo Vikaras which are collectively known as Medoroga.
4. It can be stated that abnormal and unequal distribution or collection of Medo Dhatu in the body may be known as Medoroga.
5. This theory is also supported by Madhukoshkara[15] and Bhavamishra[16] by describing individual chapter of Medoroga.

6. Madhavakar has described the disease under heading of Medoroga in 34th chapter and has used Medaswina[17], Atisthula[18] and Sthula[19] words as synonyms.
7. Madhavakar has mentioned the Nidana, Rupa and gave clear picture of Medoroga- borrowing all the thoughts of previous authors.

CONCLUSION

Etiological factors, signs and symptoms which lead to Medoroga are merely similar to that of Hyperlipidaemia. Thus the condition which is characterized by dyslipidaemia in the body can be considered under the concept of Medoroga.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there was no conflict of interest regarding the publication of manuscript.

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