

AN AYURVEDIC ASPECT OF ATHEROSCLEROSIS: A LIFESTYLE DISORDER

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ABSTRACT:

Arteries are blood vessels that carry blood from the heart throughout the body. They are lined by thin layer of cells called as Endothelium. Atherosclerosis begins with damage to this layer. It is hardening and thickening of arteries due to the formation of fat and fibrin deposits within the arterial tissue. Causes for this damage can be high blood pressure, smoking or high cholesterol etc. It is a natural occurring phenomenon due to the aging process. This damage leads to the formation of plaques inside the arteries. Aging is due to action of Vata dosha as it has dominance in old age. Our body starts degenerating and exhibits weakening and wasting of tissues. The ability to rejuvenate cellular tissue is impeded due to decline in cellular metabolism. Ayurveda classifies Atherosclerosis as “Sanga” which is a disorder of Kapha origin affecting Vyana Vayu in Raktavaha Srotas. The causative factor being Kapha affects meda dhatu- adipose tissue, particularly the Meda dhatu agni-metabolism at the level of adipose tissue. Increased Meda dhatu formation begins to deposit in the Raktavaha srotas, blocking the flow of Vyan vayu. This results in feature of high blood pressure and kapha dusti.

KEYWORDS: *Atherosclerosis, Vata dosha, Sanga, Raktavaha Srotas, Meda dhatu*

INTRODUCTION

Atherosclerosis is a chronic condition in which arteries harden through build-up of plaques. Main classical risk factors for atherosclerosis include dyslipoproteinaemia, diabetes, cigarette smoking, hypertension and genetic abnormalities. Its pathogenesis can be understood by acknowledging the concept of medoroga in Ayurveda.

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] Sneh 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 RasagataSnehavridhhi 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 considered one of the main triggers of atherosclerosis and one of the major lifestyle modification disorders. [3] 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 approximately 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 its 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 are the pure form of Meda which is present inside the Mansa (Peshi). [5] Thus Meda, Vasa and Majja can be correlated 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 Dhatwagnimandyata, 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 Kaphavridhhi, 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 Praticaya (Hypertension), etc. [6]

Medoroga

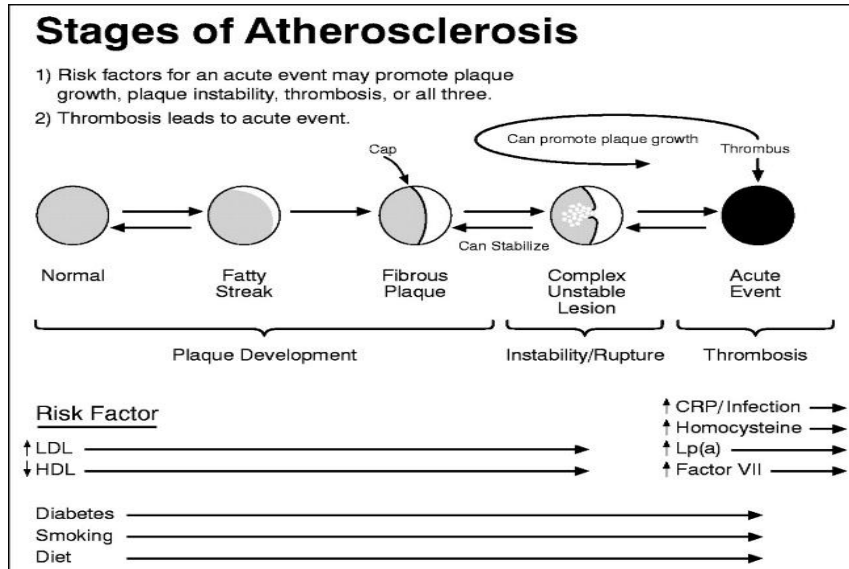
Medoroga is a common term given to the disorder related to Medo Dhatu Dushti. Medodushti is abnormal deposition of Meda Dhatu in body due to disturbances in metabolism and Agnimandya.

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, exhilaration 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 involves complex consequential process of Medovridhi. 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 leads to excessive consumption of food.
4. Excessive consumption of food leads to excessive Medo Dhatu production.

Different Concepts of Hyperlipidaemia

Hyperlipidaemic condition cannot be directly referred 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 Snehavridhi, whereas some suggest it under broad term of Ama. All these conditions are somewhat similar.

DISCUSSION

1. After studying the above of the facts, Atherosclerosis can be correlated with Medoroga. Acharya Charak didn't mention Medoroga separately but instead that he explained Sthaulya which nothing is but Medoroga. [14]

2. Acharya Charak has described Medoroga under the heading of Atisthaulya and he explained Atisthaulya 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 like that of Atherosclerosis. Thus, the condition which is characterized by Atherosclerosis in the body can be considered under the concept of Medoroga.

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