



ETIOLOGICAL FACTORS RESPONSIBLE FOR *MEDOROGA* W.S.R. DYSLIPIDAEMIA IN MODERN ERA

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ABSTRACT

The disease in which abnormal deposition of fat-*Meda* occurs on person's body to cause obesity is called as *Medoroga*. In Modern era life style of population across the world have changed dramatically to fast foods and sedentary habits. Video games, televisions, movies are today's preferred pastimes. People are not interested in walking because driving is the easiest option. Things like escalator, elevator, computer, cell phone, spend more times in air conditioned room and several kinds of washers reduce the needs for physical activity. Use of more packed food and drinks contains preservatives which are not good for health. Due to acceptance of such relevant predisposing factors, formation of *Meda dhatu* takes place excessively. This abnormal and overgrown *Meda* occludes the channels and causes

hindrance to nourishment of other basic body elements, which ultimately remain undernourished and weak. This vicious cycle continues and as a result only abnormal formation and deposition of *Medo Dhatu* occurs in the body. In *Ayurvedic* text there is no such term like dyslipidaemia but the property of such lipids (*Meda*) closely resemble with the properties of *Sneha Dravya-Medo Dhatu*. In dyslipidaemia, the concentration of total cholesterol in serum reflects the concentrations of different lipoproteins in the serum. *Ayurveda* advocates certain fix life style related activities in the topic of *Dincharya/Ritucharya/Sadvritta*. The lack of time and more desire have made human unable

to follow the *swasthya niyama* and adopting such type of life style which push human into the well of disease.

KEYWORDS: *Medoroga*, Dyslipidaemia, *Medo dhatu*, *Sneha Dravya*.

INTRODUCTION

Medoroga explains about obese state of body. It also describes about various ill effect of weight gain. It is disease in which abnormal deposition of fat-*Meda* occurs on persons' body.^[1] In modern era sedentary life style, drastic change in food pattern and reduce physical activities are responsible for formation of *Meda Dhatu* excessively. In *Ayurvedic* text there is no such term like dyslipidaemia but the property of such lipids (*Meda*) closely resemble with the properties of *Sneha Dravya-medo Dhatu*. Dyslipidaemia is a disorder of lipoprotein metabolism, which can include overproduction or deficiency of lipoprotein or both. The disorder can manifests 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 atherosclerosis.^[2] Recent study have reported that high cholesterol is present in 25-30% of urban and 15-20% rural areas. The most common Dyslipidaemia in India are borderline high LDL cholesterol, low HDL cholesterol and high triglycerides. Study have reported that over a 20 years period total cholesterol LDL cholesterol and triglyceride levels have increased among urban population. Case control studies have reported that there is significant association of coronary events with raised apolipoprotein B, total cholesterol and inverse association with high apolipoprotein A and HDL.^[3]

MATERIAL AND METHODS

Etiological Factors

अव्यायामदिवास्वप्नश्लेष्मलाहारसेविनः। मधुरोऽन्नरसः प्रायः स्नेहान्मेदः प्रवर्धयेत् ॥ (Ma. Ni.34/1)

- *Avayayan*^[4] - Lack of physical exercise. People need to have lively pastime. In its place, they have become used to a sedentary pastime. Video games, TV, movies are today's preferred pastimes. In fact, children also spend most of the time in front of a TV screen than they do in school or playground. Televisions, computers, and video games encourage sedentary lifestyle. People are not interested in walking due to driving is often the easiest option. Things like escalators, elevators, computers, cars, mobiles and several kinds of washers reduce the need for physical activity.
- *Divaswapna*^[4] - Enjoying day time sleeping.

- ***Shlesmaaharsevinah***^[4] -Excessive habitual intake of sweet contents of food. The fashion of eating fast food is increasing day by day. People are eating fast food outside the streets and restaurants more often, so they have less control over how much fat, sugar, and salt they are eating.
- ***Madhuroannrasah prayah***^[4] -Excessive intake of unctuous food contents. Use of more packed food and drinks contains preservatives which are not good for health. Fast food restaurant encourage super-sizing of meal, adding unnecessary calories.

Pathogenesis of *Medo roga*

Due to acceptance of such relevant predisposing factors, this obstructs the nutrient channels of the remaining tissue depriving them the nutrition. So a large quantities of lipid accumulate in the body. This in turn, makes the person incapable of all activities. Difficulty in breathing even on slight exertion, thirst, delusion, sleep, sudden catching of breath, exhaustion, excessive hunger, bad smell of the body and poor physical and sexual capacity gradually develop. As the stomach and bones are the chief depots of fat, the stomach gets enlarged in such persons. The channels of *Vata* become obstructed by the increase in fat inside the stomach, *Vata* then begins to act fast inside the stomach. It promotes the digestive activity, making room for a voracious hunger and craving for large amount of eatables. In course of time, several features that are more distressing develop. Gastric fire (*Agni*) and *Vata* acting together are very harmful. Just at the forest fire destroy the forest, these destroy the body. The three *Doshas* get increased, cause several and severe implications. There is even quick loss of life with increase in fat (lipid).^[5,6]

Natural location of *Meda Dhatu* is at *Udara* (abdomen) as well as around the bones. Therefore in *Medoroga* abnormal deposition of *Meda* is specially observed over the abdomen.

In *Medoroga* two types of *Meda Vriddhi* takes place^[7]

1. ***Baddha Meda Vriddh /Poshya Medo Dhatu*** - The fat which is not mobile and is stored in form of adipose tissue in various places. (fat depots/omentum/muscles in the body).
2. ***Abaddha Meda Vriddhi/Poshak Medo Dhatu*** -The fat which is mobile or *Poshaka Meda Dhatu* and circulate in the body along with blood in the form of lipids. (Cholesterol, Triglyceride, LDL, HDL & VLDL etc.)

Dyslipidaemia

Dyslipidaemia is a disorder of lipoprotein metabolism, which can conclude 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 contributes to the development of Atherosclerosis. Clinically subjects can be diagnosed to have dyslipidaemia on the basis of the following factors (Clinical classification).^[8]

1. Increase in cholesterol only (pure or isolated hypercholesterolemia), >200 mg/dl
2. Increase in TGs only (pure or isolated hypertriglyceridemia), >150 mg/dl
3. Increase in both cholesterol and TGs (mixed or combined hyperlipidaemias)
4. Decrease in HDL-C (isolated low HDL-C), <40 mg/dl
5. Atherogenic dyslipidaemia (increase small dense LDL-C 100 mg/dl, increase TG, low HDL-c and increased Lp(a))

DISCUSSION

In *Ayurvedic* literature dyslipidaemia term is not described directly but increase in *Sneha* properties in blood like lipoproteins, cholesterol etc is closely resembles with dyslipidaemia. The above description suggests that dyslipidaemia is produced due to vitiation of *Medodhatu*. It has been mentioned in *Susrutha* that ama is sweet like *Anna Rasa* and as it contain *Sneha* properties and it is slippery in nature as it only increase the *Medodhatu*.^[9] Dyslipidaemia is also the condition of abnormal level of any lipid or lipoproteins in the blood. Lipids are fats that are either absorbed from food or synthesized, by the liver. These increased lipids transported through blood by protein capsules and the size of that capsule or lipoprotein determines its density. There are two types of *Medo Dhatu*. One is *Poshaka* and second is *Poshya*. Among these two, *Poshaka Medo Dhatu* is mobile in nature (*gatiyukta*), which is circulated, in the whole body along with the *Rasa* and *Rakta Dhatu*, to give nutrition to *Poshya Medo Dhatu*. Production of *Ama Rasa*, leads to increased production of *Sama Poshak Medodhatu*. Second, *Poshya Medo Dhatu* is having immobile nature (*gativivarjita*), which is stored in *Medodharakala*. Due to *Atisnigdha Guna* of *Ama Rasa*, there is formation of only *Meda Dhatu* at the cost of other *Dhatu*s. Next is obstruction of *Srotas* due to increase *Meda* and the *Vata* moving in the *Kostha* causes increases of *Jatharagni* which results excessive hunger, which in turn leads excessive intake and results *Medoroga*. The site of *Medodharakala* is *Udara, Anuasthi, Sphika, Stana* and *Gala*.

CONCLUSION

Etiological factors are same which are responsible for increase in *Meda* and Lipid levels in the body. There are two types of *Dhatu* in our body one is *Sthyai* (*Poshya dhatu/ Baddha meda vriddh*) and another is *Asthayi* (*Poshak dhatu/Abaddha meda dhatu*). *Poshak Meda dhatu/Abaddha meda dhatu* can be correlated with serum lipids and vitiated state of *Poshak meda dhatu/Baddha meda dhatu* can be considered as Dyslipidaemia. Excessive and continuous intake of *Kapha* and *Meda* aggravating diet, mental and physical activity vitiate the *Jatharagni* and *Medodhatwagni*. Vitiated *agni* leads to formation of *Ama* which is responsible for *Medoroga* (dyslipidaemia).

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