

## “SIMILARITY CONCEPT OF LIPIDS & MEDA DHATU VIS-À-VIS HYPERLIPIDEMIA”

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### ABSTRACT

The present study conceptually tries to correlate lipids and *Meda Dhatu* in context of Hyperlipidemia as per Ayurvedic parlance. Hyperlipidemia involves abnormally elevated levels of any or all lipids and/or lipoproteins in the blood. On the basis of observation it seems that more utilization of lipids gives priority to Obesity and Hyperlipidemia. In our body, there are many tissues which are rich in lipids such as *Meda Dhatu*, *Vasa* and *Majja Dhatu*. Among the above lipids *Meda Dhatu* is very important, as it has significant role in developing many metabolic diseases like Hyperlipidemia.

**Keywords:** Lipids, *Meda Dhatu*, Hyperlipidemia,

### INTRODUCTION

According to Ayurvedic principles universe is composed of five basic elements called *Panchamahabhuta* viz *Akash*, *Vayu*, *Agni*, *Jala*, and *Prathvi* and so is the human body<sup>[1]</sup>. In modern science cell is defined as the structural and functional unit of the living body which is composed of Proteins Lipids Carbohydrates water and many kind of minerals<sup>[2]</sup>. Similarly in *Ayurveda Dosha Dhatu* and *Mala* is the structural and functional unit of the living body which is composed of *Panchamahabhuta*<sup>[3]</sup>.

In our body many tissues are rich in lipids. The main biological functions of lipids include storing energy, signaling, and acting as structural components of cell membranes. Lipids are a group of naturally occurring molecules that include fats, waxes, sterols, fat-soluble vitamins etc. All these structures have *Snehatwa*

(oiliness/lubricity) as common feature. Lipids can be co-related with the *Meda Dhatu*, *Vasa* and *Majja Dhatu*. Although they have *Snehatwa* as common feature these differ in their site and function<sup>[4]</sup>. When the *Sneha* is in a normal condition, it gives unctuousness and corpulence to the body, but when it is in a disturbed state, disease occurs which can be termed as *Ras – Raktagat Snehavridhi* or *Meda Dusti* (Hyperlipidemia).

### HYPERLIPIDEMIA

Hyperlipidemia is one of the major lifestyle disorders which is defined as the presence of raised or abnormal levels of serum levels of one or more of total cholesterol, low-density lipoprotein cholesterol, triglycerides, or both total cholesterol and triglyceride (combined Hyperlipidaemia) that contributes to the development of athero-

sclerosis<sup>[5]</sup>. It is the most common form of dyslipidemia. Lipids are transported in the blood as large 'lipoproteins'. Lipoproteins are divided into five major classes, based on density: chylomicrons, very low-density lipoproteins (VLDL), intermediate-density lipoproteins (IDL), low-density lipoproteins (LDL), and high-density lipoproteins (HDL).

Hyperlipidemias are divided as primary and secondary subtypes. Primary hyperlipidemia is usually due to genetic causes (such as a mutation in a receptor protein), while secondary hyperlipidemia arises due to other underlying causes such as diabetes, thyroid disease, liver disorders, renal disorders, and Cushing's syndrome, as well as alcohol consumption, estrogen administration, and other drug-associated changes in lipid metabolism.<sup>[6]</sup>

**CONCEPT OF MEDA DHATU:** The human body is made up of seven body elements called 'Dhatu' various standards and norms of standard physique possessing a balanced proportion of different Dhatu including Meda Dhatu. It is considered as Sneha dominant Drava Dhatu which is having Guru (heavy), Snigdha (oiliness) properties and dominance of Prithvi, Apa and Teja Mahabhoota<sup>[7]</sup>. The total quantity of Meda is 2 Anjali.<sup>[8]</sup> As states by different Acharyas, Snehana (oiliness), Sweda (sweat), Dridhatva (strength), Asthipusti (strengthening of bones) and Netra Gatra Snigdhatva (oiliness of eyes and body) are the main functions of Meda Dhatu<sup>[9]</sup> Chakrapani has classified all the Dhatus into two types on the basis of their function of Poshana, accordingly there are two types of Meda Dhatu - one is Poshaka and second is Poshya<sup>[10]</sup>. Among these two Poshaka Meda Dhatu

is mobile in nature (*Gatiyukta*); which is circulated in the whole body along with the *Gatiyukta Rasa - Rakta Dhatu*; to give the nutrition of *Poshya Medadhatu*. Although by investigation we have seen that cholesterol and lipids are present in the circulating blood. Second *Poshya Meda Dhatu* is immobile in nature (*Gativivrajita*); which is stored in *Meda Dharakala*. it can be correlated with adipose tissues/fat. The site of *Meda Dharakala* is Abdomen (*Udara*) and small bones (*Anu Asthi*). *Udara, Sphik, Stana* are also depots of *Poshya Meda*<sup>[11]</sup>. It is also found that central abdominal fat and visceral fat are more metabolically important than other fat depots being strongly associated with insulin resistance and Dyslipidemia<sup>[12]</sup>

**CONCEPT OF LIPID:** Lipids can be correlated with the *Meda Dhatu, Vasa* and *Majja Dhatu*. Although they have *Snehatva* as common feature these differ in their site and function. It is so called because it smoothen (*Snihyati*) the body. *Medas* is present mainly in *Udara*, but if it is present inside small (*Anu*) *Asthi* is called *Sarakta Medas* and when in large (*Sthula*) *Asthi*, the same is called *Majja*<sup>[13]</sup>. The pure form of *Medas* present in *Mamsa (Peshi)* is called *Vasa*,<sup>[14]</sup> thus all forms of lipids in body are present mainly in *Meda, Vasa & Majja*. But importance is given to *Meda Dhatu* which is having role in developing many metabolic disorders like Hyperlipidemia DM etc<sup>[15]</sup>.

#### COMPARISION BETWEEN THE CONCEPT OF MEDHA AND LIPIDS

*Snehatva* is common feature of lipids and *Meda Dhatu*. Excessive Ingestion of *Sneha (Ghrita, Taila, Vasa & Majja)* cause *Medaroga* and increases body lipids too. As

described in *Ayurveda*, *Meda Dushti Janya Sign & Symptoms* shows strikingly resemblance with Hyperlipidemia explained in modern text. According to *Ayurveda*, excessive intake of *Shleshma Vardhak Aahar- Vihar* and reduced exercise causes *Agnidushti* resulting in excessive formation *Saam Meda*. Thus it presents as "*Medaroga or Medadushti*" [16].

Vitiation & excessive accumulation of *Meda Dhatu* is the major pathology of *Medadushti* in which two type of *Medavriddhi* takes place: *Baddha Meda Vriddhi* can be correlated to the excessive

accumulation of the fatty tissue. *Abadhha Meda Vriddhi* is the excess of circulatory type of *Meda Dhatu* that nourishes the *Baddha Meda*. This can be correlated to increase serum lipid level in the body as the adipose tissue is also composed of Triglycerides. Fat gives an oily appearance to the body (*Meda-Snigdhangata*). *Meda* is the main factor (*Dushya*) which is affected in *Sthaulya* and *Prameha* while Obesity and diabetes are often associated with abnormal lipid levels.

### COMPARISION BETWEEN MEDHOROGA & LIPID DISORDERS

S.N.		MEDHOROGA	LIPID DISORDERS
1.	Etiological factors	<i>Medyanna - Atisevana</i>	Intake of high fat diet
		<i>Avyayama</i>	Lack of exercise
		<i>Divaswapna-Achintana</i>	Sedentary life style
		<i>Bijaswabhava</i>	Genetic predisposition
2.	Clinical Features	<i>Sphik, udara, parsva, sthana-pradeshaatimedavriddhi</i>	Excessive deposition of fat in abdomen, waist, buttock etc
		<i>Ksudaatimatra</i>	Excessive appetite
		<i>Kshudrashwasa</i>	Exertional dyspnea
		<i>Atisweda</i>	Excessive perspiration
		<i>Dhurbalya</i>	General weakness
3.	Complications	<i>Ayusho-Hrasa</i>	Decreased life expectancy
		<i>Javaprodha</i>	Mechanical disabilities
		<i>Alpaprana</i>	Loss of immunity
		<i>Vata-vikara</i>	Cardiovascular and cerebrovascular manifestations

### CONCLUSION

After studying the above comparison of the facts, it seems that lipids can be considered as *Meda dhatu* and Hyperlipidemia as a *Medaroga*. So we can be established relationship between Hyperlipidaemia and *Poshya Poshaka Meda Dhatu* described in *Ayurveda*. Also, Hyperlipidaemia can be treated on the principles stated in *Ayurveda*,

thereby reducing the risk for cardiovascular diseases with the holistic approach.

### REFERENCE

1. Sushruta Samhita, edited with *Ayurveda Tatva Sandipika* hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re. Ed. 2010; *Sharir Sthana* 46/526, Page no. 289

2. Essential Of Medical Physiology, K Sembulingam, Jaypee Brothers Medical Publishers (P) Ltd New Delhi 2013 Page No 3
3. Sushruta Samhita, edited with Ayurveda Tatva Sandipika hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re. Ed. 2010; Sutra Sthana 15/3, page no. 73
4. Sushruta Samhita, edited with Ayurveda Tatva Sandipika hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re. Ed. 2010; Sharir Sthana 4/12-13, page no. 39
5. [www.who.int/gho/ncd/risk\\_factors/cholesterol\\_text/en/](http://www.who.int/gho/ncd/risk_factors/cholesterol_text/en/)
6. <https://en.wikipedia.org/wiki/Hyperlipidemia>
7. Charaka Samhita With Charaka Chandrika Commentary By Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed. 2004 Part 2 Chikitsa Sthana, chapter 15/30, Page no 557
8. Charaka Samhita With Charaka Chandrika Commentary By Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed. 2004, Sarira Sthana, chapter 7/15 Page no 927
9. Sushruta Samhita, edited with Ayurveda Tatva Sandipika hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re. Ed. 2010; Sutra Sthana 15/5, Page no. 74
10. Charaka Samhita with Charaka Chandrika Commentary by Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed 2004, Part 2, Chikitsa Sthana, Chapter 15/16 page no 557.
11. Charaka Samhita with Charaka Chandrika Commentary by Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed. 2004, Part 1, Sutra Sthana, chapter 21/ 9, Page no 401.
12. Yash Pal M , API Textbook of Medicine, edited by,2012, Edition 9th, Sec 18-Disorders of Metabolism, Chap 3- Lipids and Lipoprotein Metabolism,page no.1235.
13. Sushruta Samhita, edited with Ayurveda Tatva Sandipika hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed. 2010; Sharir Sthana 4/11, Page no 39
14. Sushruta Samhita, edited with Ayurveda Tatva Sandipika hindi commentary, Shastri AD, Part I, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed. 2010; Sharir Sthana 1/12, Page no. 4.
15. Charaka Samhita With Charaka Chandrika Commentary By Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Re Ed 2004, Part 1, Sutra Sthana, chapter 21/ 9, Page No 401.
16. Madhava Nidana with Madhudhara hindi commentary by Dr Bramhananda Tripathi, Chaukhambha Sanskrit Sansthan, Varanasi, Ed 2009, volume 2, chapter 34/1-5, Page no 34.

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