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An Ayurvedic Approach of Hyperlipidaemia and its Management: Conceptual Study

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ABSTRACT

Hyperlipidaemia is an important risk factor for atherosclerosis, coronary artery disease and cerebrovascular diseases. Global views emphasize the need for early, effective interventions against the atherogenic. Hyperlipidaemia is associated with Diabetic and Non diabetic cases and with metabolic syndrome to reduce the risk of premature cardiovascular diseases. Hyperlipidemia is one of the major lifestyle disorders. Hyperlipidemia is one of the greatest risk factor contributing to prevalence and severity of cardiovascular diseases like Coronary Heart Disease. Hyperlipidemia is emerging as major health problem in modern era.

It can be included in *Santarpanjanya Vyadhi*. It is also a Dhatupradoshaja *Vikara* in which Medodhatu is becoming dominant. The lipids which are elevated can be correlated to *Sneha, Medo Dhatu, Sama Rasa* due to similarity in their properties. In *Ayurveda*, it can be better correlated with *Medodushti* which is just a precursor stage of Medoroga and can be easily reversible by effective Ayurveda regimen. There is a major role of *Agni* and *Ama* in pathogenesis of hyperlipidaemia, and the drugs having *Dipana, Pachana, Ama Nasahak, Kaphamedohara, Srotoshodhak, Rasayan* quality will be highly effective for the management of hyperlipidaemia.

KEYWORDS

Hyperlipidaemia, Medodushti, Medoroga, Lipids, Ama, Agni.



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INTRODUCTION

There is no direct reference of a single disease entity that can be directly correlated with hyperlipidemia. The study of *Ayurveda* texts bears certain unclear concepts or reference relating to an increase in amount of *Rasagat Sneha* (circulating body lipids) yet the literal meaning of hyperlipidemia is not found to be specifically stated anywhere.

Different scholars of *Ayurveda* have made attempts to correlate it clinically either as *Rasagat, Raktagat, or Rasaraktagat Sneha vriddhi, Medoroga, Medo Vriddhi, Ama Medo Dhatu, Sthaulya*, etc. whereas some others suggest it to be considered hyperlipidemia under the broad umbrella of *Ama*. The lipids which are elevated can be correlated to *Sneha, Medodhatu, Samarasa* due to the similarity in their properties. A detailed study of hyperlipidaemia reveals its similarity to *Asthayi Medo Dhatu Vriddhi* which is *Ama* in nature due to which it is retained in the body for a longer time resulting in further complications. It can be implicit that the pathology is related to *Kapha Karaka Nidana i.e. – Santarpana Ahara, Vihara*, which includes sedentary life style, high calories food intake, lack of exercise, etc., which finally leads to morbidity of *Kapha Dosha* and *Medo Dhatu*. Due to *Medodhatvagnimandya* and

Dushti excessive accumulation of abnormal *Kapha* and *Meda* occurs in various *Srotas* in the body. *Aparipakva Kapha – Meda* present in *Rasa- Raktavaha Srotas* results in obstruction to the movement of *Vata* and *Rakta* through affected channels, which finally ends up in disease manifestation according to the site of infirmity.

Hyperlipidemia is a term used to denote raised serum levels of one or more of the total cholesterol, low density lipoprotein-cholesterol (LDL-C), High density lipoprotein Cholesterol (HDL-C), Triglycerides (TGs), or both. It is a metabolic disorder in which levels of lipoproteins cholesterol, Triglycerides (TGs), or both are raised in plasma, where there is a deposition of lipids in wall of vessels.

Agni is the term used in *Ayurveda* for defining collectively all bodily metabolic actions. All metabolic diseases are an outcome of inadequate functioning of *Agni*. When *Agni* gets decreased it leads to formation of *Ama*, once which is formed capable of obstructing the metabolic pathways and causing diseases. Correction of *Agni* is the basic treatment for increased lipid levels. An *Ayurveda* approach to Hyperlipidemia involves methods to increase power of *Agni* and to digest the *Ama*.



AYURVEDIC REVIEW OF HYPERLIPIDAEMIA

In *Ayurveda* various attempts have been made to use distinctive nomenclature to denote the word hyperlipidaemias which are as follows:

1. *Rasagata Sneha Vriddhi*
2. *Rasa Raktagata Sneha Vriddhi*
3. *Medovriddhi*
4. *Medoroga or Medodosha*
5. *Ama Medo Dhatu.*

Table 1 COMPARISON BETWEEN THE CONCEPT OF *MEDA* AND LIPIDS

<i>MEDA</i>	LIPIDS
<i>Meda</i> increases due to Ingestion of <i>Atisnigdha Ahara</i> too much <i>Sneha (Ghrita, Taila, Vasa, Majja)</i>	Intake of high fat diet (ghee, oils, marrow, butter, cheese, etc.) increases body lipids.
Dietary intake of excessive <i>Madhura Dravyas</i> affects <i>Medoroga</i>	Increased intake of carbohydrates (especially sucrose increases cholesterol level).
<i>Meda- Snigdhagata</i>	Fat gives an oily appearance to the body.
<i>Meda</i> is the main factor which is affected (<i>Dushya</i>) in <i>Medoroga</i> and <i>Prameha</i> .	Obesity and diabetes are often associated with abnormal lipid level.
<i>Atisampoorna</i> is a cause of <i>Meda Vriddha</i> .	Over indulging drives fat gain.
<i>Beeja swabhava</i> is associated with <i>Meda Vriddhi</i> .	High blood cholesterol levels typically results from a combination of genetic and environmental risk factors.

HYPERLIPIDAEMIA OCCURS DUE TO

1. *Agnimandya*
2. *Ama utpatti*
3. *Medoroga*

ROLE OF *AGNIMANDYA* IN HYPERLIPIDAEMIA

- The vitiation of *Agni* has serious impact on health at various levels depending on type of *Agni* involved.
- All metabolic diseases are an outcome of improper functioning of *Agni*.
- The imbalance in the functional capacity of *Agni* is the main initiating factor for the production of *Ama*.

CONCEPT OF *AMA*

“उष्मणोऽल्पबलत्वेनधातुमाद्यमपचितम।

दुष्टमामाशयगंतरसमामंप्रचक्षते ॥”

(अ . ह. सू३३/२५)

► *Ama* is a product of incomplete digestion of food which can be absorbed from GI tract but cannot be utilized by the body cells.

► *Ama* formation occurs when intake of food exceeds the digestive capacity i.e. - *Agni*.

► *Ama* circulates all over the body along with *rasa* i.e. – body fluids.

PHYSICAL PROPERTIES OF *AMA*

“अविपकमसयुक्तमदुर्गन्धबहुपिच्छलम
सदनंसर्वगात्राणामामइत्याभिधियत ॥”

(मा. नि. २५/३)

Ama has following Qualities- i.e. - *Dravatvam, Gurutvam, Snighdhatvam,*



Nanavarna, pichchilatvam, Tantumattvam, Asamyuktama, Durghandhitvam.

DHAMANI PRATICHAYA

- Dhamani Pratichaya is considered as one of the Nanatmaja Kapha Roga.
- According to Acharya Charak it is Kaphaja Nanatmaja Vyadhi (Charak Samhita)
- The excess Poshaka Medo Dhatu may accumulate on the walls of vessels (Dhamani) and may cause serious complications related to circulation.
- In Charak Samhita Sutrasthana chapter 20/17, Acharya Charak has clearly mentioned a term “Dhamanipratichaya” in twenty Kaphaja Nanatmaja Vikaras. On the basis of their clinical manifestations Dhamanipratichaya (Dhamaniupalepa, Dhamanipustata, and Dhamanimati poorana) can be correlated with the term Atherosclerosis / Arteriosclerosis.

AYURVEDIC MANAGEMENT OF HYPERLIPIDAEMIA

❑ NIDANA PARIVARJAN

❑ GENERAL PRINCIPLES OF MANAGEMENT-

- 1) *Apatarpan Chikitsa - Langhan and upvasa*
- 2) *Shodhan Chikitsa -*
- 3) *Shaman Chikitsa -*

❑ PATHYA AND PATHYA

1. Apatarpan Chikitsa

“शस्तमुल्लेखनंतत्रविरेकोरक्तमोक्षणम्।

व्यायामश्चोपवासश्चधूमश्चस्वेदनानिच॥

सक्षौद्रश्चाभयाप्राशः प्रायोरुक्षान्नसेवनम्।

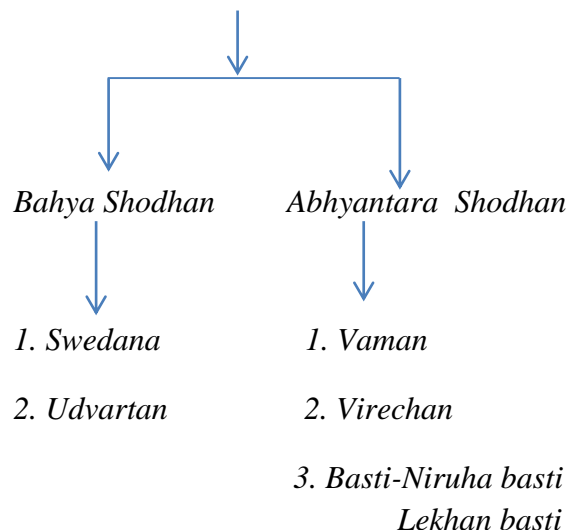
चूर्णप्रदेहायेचोक्ताः कण्डूकोठविनाशनाः।”

च. सू. २३/ ८-९

Measures like *Ullekhana, Raktamokshana, Vyayama, Upavasa, Dhuma, Swedana, Sakshaudra Ahara, Abhayaprasha, Rukshanna Sevana*, different types of *Churnas* and *Pradehas* can all be employed as *Apatarpana Chikitsa*.

2. Shodhana Chikitsa

SHODHAN CHIKITSA



1) Bahya Shodhana: Udvartana

“उद्धर्तनंकफहरंमेदसः प्रविलापनम्।

स्थिरीकरणम्अङ्गानांत्वक्प्रसादकरं परं॥”

अ. ह. सु. - २/१५

For *Bahya Shodhana Udvartana* has been mentioned in (A. Hr. Su. 2/15) with its property like, *Kaphahara, Medas Pravilayana, Sthirikaranam Anganam* etc.



SOME UDVARTANA DRAVYAS AND THEIR PROBABLE MODE OF ACTION

- | | |
|---------------------|--|
| 1. Triphala churna | } having properties to alleviate stagnant
kapha , meda , ama - due to their
ushna virya and katu vipaka.
Laghu, ruksha, suksma guna causes
excess kleda shoshan. |
| 2. Kulatha churna | |
| 3. Vidanga churna | |
| 4. Haridra churna | |
| 5. Vacha churna | |
| 6. Shilajatu churna | |
| 7. Musta churna | |

1) *Abhyantara Shodhana*:

“शस्तमुल्लेखनंतत्रविरेकोरक्तमोक्षणम्।

व्यायामश्चोपवासश्चधूमश्चस्वेदनानिच॥ “

च. सू. २३/ ८

➤ Being a syndrome entity *Samshodhana* therapy is highly recommended for Hyperlipidaemia.

➤ *Charaka* has mentioned *Vamana, Virechana, Raktamokshana* for *Santarpanotha Vikaras* which can be used for treating Hyperlipidaemia. He also suggested *Ruksha, Tikshna & Ushna basti* for management of *Sthaulya* which can be appropriate for the management of Hyperlipidaemia.

Shamana

➤ Among *Shad upakramas, Langhana & Rukshana* can be administered for *Samshaman* purpose.

➤ *Langhana (Apatarpana)* therapy is considered as *Ama Pachaka, Sroto shodhaka* and corrects *Agnimandya*.

➤ All the seven ways of *Langhana* can be applied to the patient of Hyperlipidaemia according to *Rogi-Roga Bala*.

1. *Deepana - Deepaniya dravyas* helps in improving the status of *Agni*.

2. *Pachana- Pachana Dravyas do Amapachan*.

3. *Vyayama- Shavasana, Pawanamuktasana, Bhujangasana and Mayurasana* are considered to be the best for relaxative postures and also for *Agnivardhana* and *Vatanulomana*.

4. *Marutasevana*

5. *Atapasevana*

6. *Kshut-Nigraha*

7. *Trishnanigraha*

AIMS OF SAMSHAMANA IN HYPERLIPIDAEMIA

• Alleviation of *Vata, Pitta, Kapha* long with reduction of *Medo dhatu* by increasing *Medo dhatvagni* is the main aim of the treatment.

• Administration of drugs which are *Guru & Lekhan* that results in mitigation of *Medas, Kapha & Vata* (Cha. Su. 21/20-21) e .g. *Madhu* is having *Guru & Ruksha*



property & hence is the best drug for *Medovriddhi*.

- *Acharya Sushruta* advised administration of *Virukshan & Chhedaniya Dravyas* (Su.su.15/32), *Dalhana* commenting on this has explained: - *Virukshana* helps to reduce *Meda*
- *Chedaniya* drugs helps to remove obstruction from the *Srotas* Particularly *Medovaha Srotas*. E.g. *Shilajit, Guggulu, Loharaja, Triphala* etc.

AN IDEAL DRUG FOR HYPERLIPIDAEMIA

An ideal drug for increased *Meda* in Hyperlipidaemia helps in *Samprapti Vighatana*. It should have following properties.

- *Rasa- Katu, Tikta, Kashaya*
- *Guna- Ruksha, Tikshna*
- *Virya- Ushna*
- *Karma- Lekhaniya, Medohara, Amapachana, Dhatushoshana*. In ch.su - 21/21-28 for *Atisthaulya Chikitsa Ahara, Vihara Pathya and Aushadha* is mentioned that can be used in hyperlipidaemia condition as a Shaman Chikitsa.

Table 2 *Ahara, Vihara Pathya and Aushadha* that can be used in hyperlipidaemia

AHARA	VIHARA	AUSHADHA
<i>Rukshanna</i>	<i>Vyayama</i>	<i>Guduchi</i>
<i>Sevana</i>	<i>Upavasa</i>	<i>Bhadra Musta</i>
<i>Kulattha</i>	<i>Vyavaya</i>	<i>Triphala</i>
<i>Yava</i>	<i>Prajagara</i>	<i>Shilajit</i>
<i>Mudga</i>	<i>Chintana</i>	<i>Agnimantha</i>
<i>Aadhaki</i>		<i>Arishta</i>
<i>Amalaki</i>		<i>Bilvadi</i>
<i>Kshaudra</i>		<i>panchamula</i>

<i>Patola</i>	<i>Sakhaudra</i>
<i>Jangala</i>	<i>Abhayaprasha</i>
<i>Mamsa</i>	<i>Nagara</i>
<i>Kodrava</i>	<i>Kshara</i>
<i>Madhukodaka</i>	<i>Guggulu</i>
<i>Shyamaka</i>	<i>Gomutra</i>
<i>Uddalaka</i>	<i>Loharaja</i>
	<i>Rasanjana</i>

“उत्पन्नेतुशिलाजतुगुगुलुगोमूत्रत्रिफलालोहरजोर साञ्जनमधुयवमुद्गकोरदुषकश्यामकद्यालकादिनां विरूक्षणच्छेदनीयानां द्रव्याणां विधिवदुपयोगो व्यायामोलेखनबस्त्युपयोगश्चेति।“

सु. सु. -१५/३२

In the *Chikitsa* of *Sthaulya Acharya Sushruta* has specified the use of *Shilajatu, Guggulu, Gomutra, Triphala, Loharaja, Rasanjana, Madhu, Yava, Kordusha, Shyamaka, Uddalaka*, use of *Virukshana* and *Chedaniya Dravyas, Vyayama and Lekhana Basti*.

Table 3 Following drug formulations can be used alone or in combination in treating a patient of Hyperlipidaemia

<i>Kalpana</i>	<i>Kalpa</i>
<i>Rasa / Bhasma / Pisti :</i>	<i>Medoharavidangadi lauha, Shilajativadi lauha, Vadvagnirasa, Hardyarnava rasa, Trimurti rasa, Vyoshadya lauha, Shidha Snilajeeta, Lauha rasayana, Nagarjunabhara</i>
<i>Vati / Guggulu</i>	<i>Arogyavardhni vati, Navaka guggulu, Katuki vati, Triushanadi guggulu, Dashanga guggulu etc.</i>
<i>Churna (Powders)</i>	<i>Pippaliyadi churna, Haritakyadi churna, Vidangadi churna, Pathadya churna, Arjunatwaka churna, Vachadi churna etc.</i>
<i>Kwatha (Decoctions)</i>	<i>Phalatrikadi kwatha, Mustadi kwatha, Dashmoola kwatha,</i>



	<i>Agnimantha kwatha, Haritakyadi kwatha etc.</i>
<i>Asava – Arista</i>	<i>Loharista, Parthadyarista, Abhayarista, Vidangasava, Lohasava etc.</i>
<i>Kshara</i>	<i>Eranda kshara, Yava kshara, Apamarga kshara etc.</i>
<i>Sattu/ Manth</i>	<i>Vyosadya sattu, Triushanadya sattu, Triushanadya mantha etc.</i>

Table 4 Pathya and Apathya

PATHYA	APATHYA
<i>Moonga, Yava, Madhu, Paravala, Anara, Takra, Shunthi, Ardraka, Lahasuna, Amalaki, Soya, Haritaki, Ushna Jala, Sahijana, Sarshapa taila, Katu- tikta rasa Dravya, Vyayama, Sharama, Langhana, Upavasa etc.</i>	<i>Adhyashana, Atibhojana, Vishamabhojana, Virudhabhojana, Atyambupana, Madhura-Snigdha-Pistanna Sevana, Dadhi, Udada, Chavala, Ghee, Kheera, Rabadi, Mamsa, Fish, Egg yolk, Butter, Vegadharana, Diwaswapa, Abhyanga etc.</i>

DISCUSSION

- Considering the *Nidanas & Samprapti* of the Hyperlipidaemia, it can be considered as a *Santarpanjanya Vikara*, *Sthaulya*, *Medodhatu Dushti*, *Rasagat Sneha Vriddhi*
- Being a Metabolic syndrome there lays a definite relation between pathophysiology of Hyperlipidaemia with the *Agni vaigunyaat* different levels starting from *Jatharagni* up to *Dhatvagni*.
- *Atisthaulya* is first mentioned by *Acharya Charaka* as one of the *Kaphaja Nanatmaja Vikara*.

➤ *Agni* plays an important role in the pathophysiology of the *Medo Dhatu*. Excess ingestion of foods having *Guru, Snigdha, Madhura, Sheeta* etc qualities leads to *Ama Anna Rasa* formation. This *Ama Anna Rasa* is responsible for the hypo functioning of *Jatharagni* which leads to subsequent *Medodhatvagni mandya*. This leads to the formation of an excess of *Ama Medo dhatu*.

➤ Hyperlipidaemia is a *Prabhuta Dosha* disease and treatment of *Prabhuta Dosha* is *Shodhana*. Due to *Shodhana Karma* excessive *Doshas* are removed out from the body and *Dosha Dushya Anulomana* is attained. If *Shamana Chikitsa* is done after *Shodhana* it will be more effective.

➤ Hyperlipidaemia can be treated on the principles of *Apatarpana* and by following the line of treatment of *Sthaulya* or *Prameha*. Since all these arises due to *Medo Dushti*.

➤ *Dipana Pachana Dravyas* will be beneficial in *Samprapti Vighatana* of Hyperlipidaemia by doing *Ama Pachana* at various levels and improving the status of *Agni*.

➤ Thus, Dietary and Lifestyle modifications, besides proposed *Ayurveda* strategies are essential factors to be rigorously followed by the patient for effective control /Prevention of Hyperlipidaemia (*Rasagat sneha vriddhi*).



CONCLUSION

- Wide range of drugs i.e. statins, fibrates, resins, etc., which are quite effective in normalizing the lipid levels gives only symptomatic relief for months or years, also by taking these medicines for a longer duration shows some side effects i.e. diarrhoea, dizziness, headache, constipation, flatulence, stomach upset, myalgia, increase level of serum transaminase which can further leads to liver damage, etc. and also have to take throughout life.
- As per *Ayurveda* view if such modern medicines taken for longer duration it decreases *Sneha* present in the body and causes vitiation of *Vata*. The symptoms of Hyperlipidaemia described in modern text shows resemblance with the *Aam*, and with *Rasa Dushti*, *Rakta dushti*, and *Medodushti Janya* symptoms. Correction of *Agni* is the basic treatment for increased lipid levels.
- An *Ayurveda* approach to Hyperlipidemia involves methods to increase power of *Agni* and to digest the *Ama*. Drugs having properties like *Dipana*, *Amapachana*, *Anulomana*, *Kapha-Meda Shamana*, *Yakrituttejaka*, *Srotoshodhaka* and *Chedana- Lekhana* and which forcefully clears the accumulated *Ama* in the *Srotas* can be used.



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