



Review Article

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REVIEW ON UNDERSTANDING DYSLIPIDEMIA AND ITS MANAGEMENT IN *AYURVEDA*: A CONCEPTUAL PERSPECTIVE

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ABSTRACT

Lifestyle changes and alteration in diet brings about metabolic derangement eventually leading to conditions like Dyslipidemia. Raise in lipid level is the major cause and risk factor for Cardiovascular disorders, Diabetes mellitus etc. Globally one-third of incidence of Cardiovascular diseases are attributing by Dyslipidemia. In *Ayurveda*, this condition falls under the category of *Santarpanothavikara*, which starts its pathology from the vitiation of *kapha dosha*, *rasa* and *Medo dhatu*. The prime *Nidanas* involved in this pathogenesis are *Shleshmala ahara sevana*, *Adhyashana*, *avyayama* and *divaswapna*. Considering these *Nidana s* and *dosha-dushya vivechana* our *Acharya s* mentioned about the administration of *Guru-Atarpana dravyas*, *Vataghna annapana*, *Katu*, *Tikta*, *Kashaya rasa pradhana*, *Ruksha Ushna guna* lines, treatment modalities like *Vamana karma*, *Ruksha ushna Basti*, *Lekhana Basti*, *Ruksha Udvartana* to tackle this condition.

Keywords: Dyslipidemia, Lipoproteins, *Abaddha Medas*, *Vamana karma*, *Lekhana Basti*.

INTRODUCTION

A long and healthy life is the wish of a man since ages. However, rapid epidemiological transition with increasing population, economic prosperity and urbanization are leading to adverse life styles such as smoking and tobacco use, change in nutritional habits with greater intake of unhealthy diets and increasing sedentary lifestyle. These are bringing about metabolic derangement eventually leading to conditions like raise in lipid levels, which is highly contributing to the rising burden of non-communicable diseases like Cardiovascular disorders, Diabetes mellitus etc.¹ Evidence suggests that elevated lipid levels likely contribute independently to increased risk of Cardiovascular diseases.²

Globally, the prevalence of Dyslipidemia in adult age i.e., 20 years and older is approximately 35% in men and 25% in women. It is identified that increase in lipid levels are causing 76% increased risk of Cardiovascular diseases in female and 31% in male.³ To manage this condition contemporary medicine has emphasized the importance of life style management and interventions like administering statin, niacin analogue, fibrates, resins, omega 3 fatty acids, oestrogen replacement. A 10% reduction in serum cholesterol in men aged 40 has been reported to result in a 50% reduction in Ischemic heart disease within 5 years. But these lipid lowering drugs decrease the body repair factors without stabilizing the vascular wall.⁴

In *Ayurveda* this condition i.e.; Dyslipidemia falls under the category of *Santarpanothavikara*, which is explained in different terms like *Shareera anukrama atisneha*, *Abaddha medas*, *Asthayi medas*, *Raktagata sneha*, *Medo dosha*, *Kapha medavruta Vata*, *Shonitabhisyanda*⁵ etc. Where in all these the derangement starts

from basal level of *Ahara Pachana*, structure of *doshas* and nourishment of *dhatu s*. Considering all these, to manage this condition *Acharya s* has mentioned the administration of *Guru-Atarpana dravyas*, *Vataghna anna pana*, *Katu*, *Tikta*, *Kashaya rasa pradhana*, *Ruksha Ushna guna pradhana* lines of treatment. Accordingly, treatment modalities like *Ruksha ushna Basti*, *Lekhana Basti*, *Ruksha Udvartana*, internal administration of *Virukshaneeya* and *Chedaneeya dravyas* are described.

Etiopathogenesis of Dyslipidemia

The circulating levels of lipids or lipoprotein fractions are abnormal because of genetic and/or environmental conditions that alter the production, catabolism or clearance of plasma lipoproteins from the circulation. Later this manifest as an elevated plasma levels i.e., elevation of plasma Cholesterol, Triglyceride s or both, or a low HDL level or all three together that contributes to the development of atherosclerosis.

Due to etiology like environmental, biological and inherited factors there is alteration in lipid metabolism; at first there will be hypertrophy of adipocytes which leads to defect in the incorporation of free fatty acids into Triglycerides further, there will be decrease in trapping of free fatty acid and its retention by adipose tissue.⁶ Hence, there is increase in the free fatty acids in plasma which hampers the lipid metabolism in the liver such that there will be hampering in the activity of lipoprotein lipase and proteolysis of apoprotein B-100 leads to decrease in the clearance of lipoproteins such that at first there will be increase in the levels of Triglycerides which in turn causes increase in cholesteryl ester transfer protein and cholesteryl ester. Also causes increase in the catabolism of HDL, anabolism of LDL and VLDL such that there will be alteration in the levels of these plasma lipoproteins.

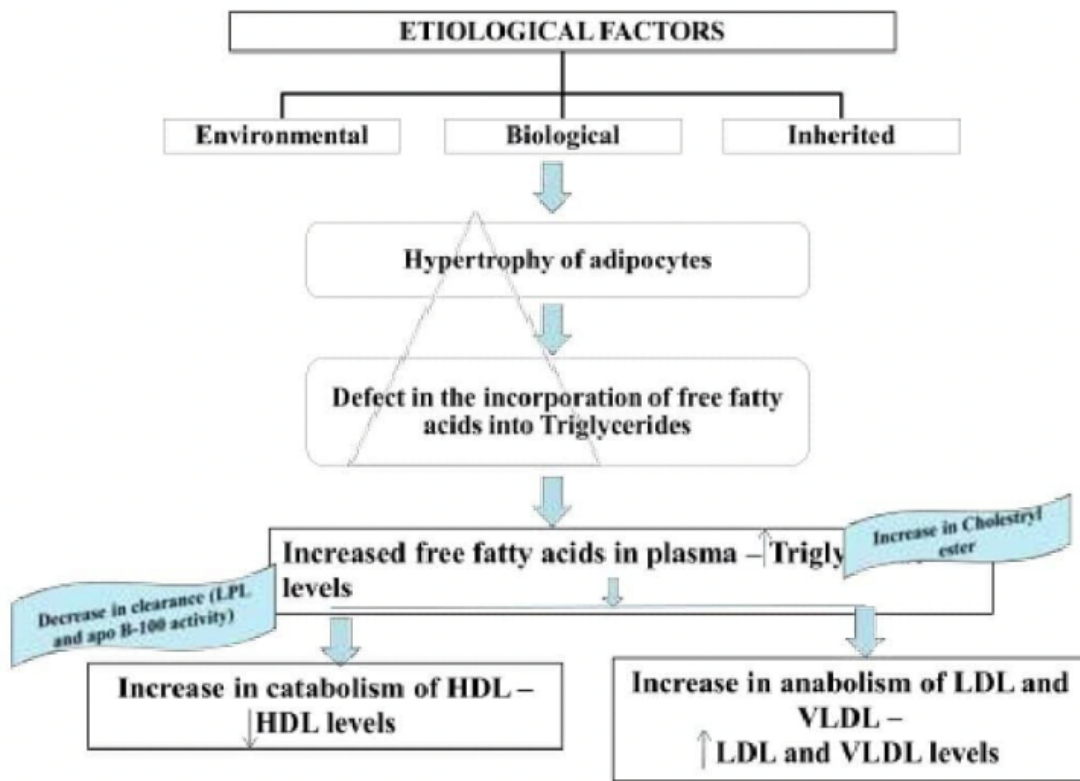


Figure 1: Flow chart of etiopathogenesis of Dyslipidemia⁷

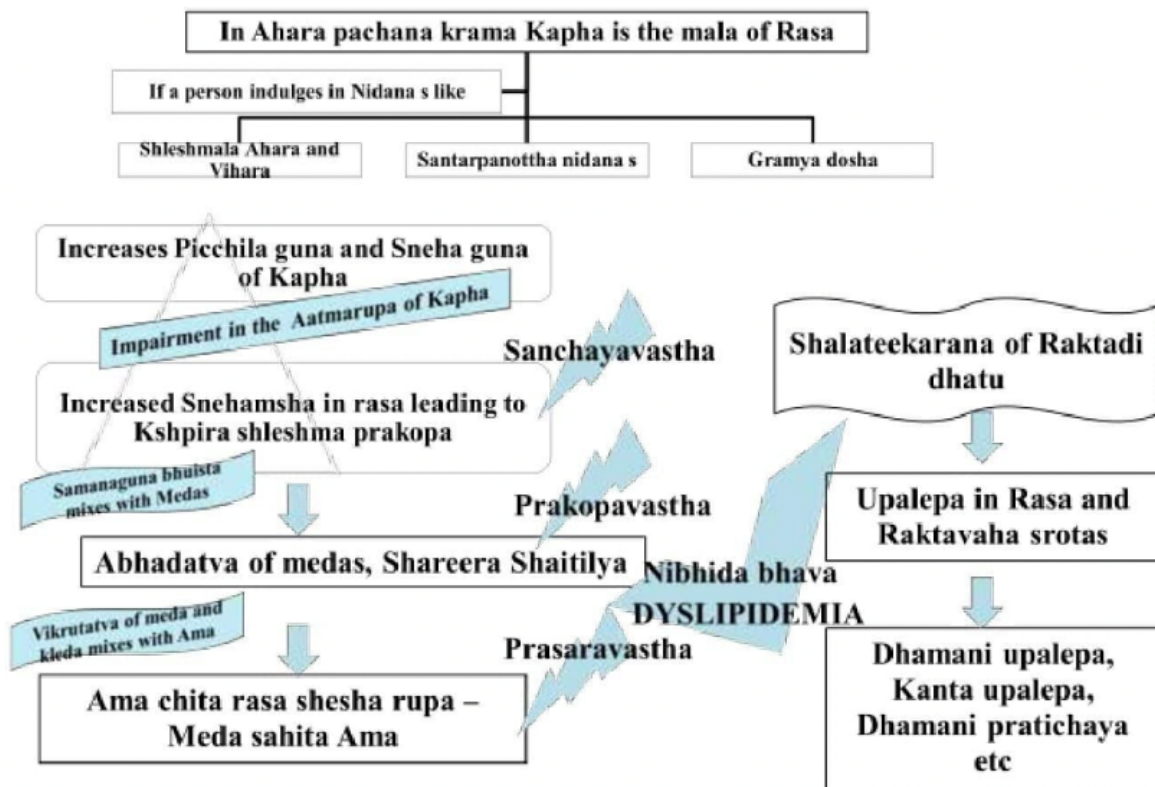


Figure 2: Flow chart of Samprapti of Dyslipidemia

Samprapti of Dyslipidemia according to Kriya kala

In *Ahara Pachana krama*, during the processing of *Ahara rasa*, *Kapha* is released and it is considered as the *mala of Rasa* i.e.; *mala rupa kapha*.⁸ If an individual indulges in *Nidanas* like *Shleshmala ahara*, *Adhyashana*, *Avyayama*, *Divaswapna*, other *Santarpanotha Nidanas*, *Gramya dosha s*, there will be impairment in the *Aatma rupa s* of *Kapha* i.e.; increase in the *Picchila guna* and *Sneha guna* of *kapha* so this causes increased *Snehamsha* in the *rasa* leading to *Kshipra Shleshma Prakopa*.⁹ This can be considered as the stage of *Sanchayavastha*.

Later due to *Samana guna bhuyishta*, it amalgamates with the *medas* causing *Abaddha avastha* of *medas* leading to *Shareera Shaithilya*. This can be considered as the stage of *Prakopavastha*.

Further if the *Nidana sevana* is continued, this *vikrutatva* of *medas* and *kleda* blend together with *ama* leading to *Meda sahita ama* i.e.; *amam chitamiti rasa shesha rupa*. This is the stage of *Prasaravastha* where it tops up in *nibidabhava* which can be termed as the stage of *Dyslipidemia*. If it is continued the same, there will be *shlathekarana* of *raktadi dhatus* which results in *upalepana* in *rasa* and *raktavahasrotas* later it will end up in conditions like, *dhamani upalepa*, *kanta upalepa*, *dhamanipraticchaya*. This can be taken under the stages of *vyaktavastha* and *bhedavastha*.

Management protocol of Dyslipidemia

The therapeutic choices for *Dyslipidemia* explained in contemporary medicine are; dietary and lifestyle intervention, pharmacological interventions i.e.; administering the lipid lowering drugs like fibrates, statins, Niacin analogue etc., Oestrogen replacement therapy, Omega-3 fatty acids, surgical resection of ileum.

Chikitsa

As this condition falls under the category of *Santarpanotha vyadhi*, *Shleshma* and *Medo pradhana vyadhi*, one should go for *Katu*, *Tikta Kashaya*, *Tikshna*, *Ushna*, *Ruksha upakramas*. According treatment modalities like *Rukshaushna Basti*, *Ruksha Udvartana* are mentioned. Meanwhile, *Vamana* is said to be the *Pradhana tama chikitsa*.¹⁰

Also, to combat this condition *acharya s* has detailed wide range of *chikitsa* principles and their implement in various stages of this condition. In *Charaka Samhita* it is explained that one should follow *Guru Cha Atarpana* principle, also mentioned that can administer *Vataghna annapana*, *Shleshma Medohara dravyas*, *Katu*, *Tikta*, *Kashaya rasa pradhana* and *Ruksha Ushna guna pradhana* lines of treatment.¹¹

Acharya Sushruta explained that at first, we should go for *Nidana Parivarjana* and later should go for administration of *Shilajatu*, *Guggulu*, *Gomutra*, *Triphala*, *Loharaja*, *Rasanjana*, *Madhu*, *Yava*, *Mudga*, *Koradhusaka*, *Shyamaka*, *Uddhalaka*, *Virukshaneeya* and *Chedaneeya dravya* and *Lekhana Basti* according to different stages of this condition.¹²

DISCUSSION

Ahara which is *Panchabhoutika* in nature, among the forms of *chaturvidha*, *shadrasatmaka*, *dvidivahaviryayukta* or *ashtavidhvirayayukta* undergoes *samyka parinama/pachana* and forms the *Paramasukshma*, *Tejobhuta Sara* called as '*Rasa*'. This *Rasa* by the *vikshepana* of *Vyana vayu* circulates all over the body through *Chaturvimshati dhamanis* and nourishes the *sapta dhatus*

and performs functions of *Tarpana*, *Vardhana*, *Dharana* and *Yapana*.¹³

If an individual involves in the *ahara-vihara* like; excessive *Shleshmala ahara*, *Santarpanajanya*, *Adhyashaya*, *Avyayama*, there will be alteration in the formation of this *Paramasukshma rasa* which becomes *Madhuratarata* converting into *ama* causing increase in *atisneha* in *Sukshma Srotas* leading to the formation of *medas* which will be circulating all over the body in *Asthayi* and *Samleena avastha*. If these same *Nidanas* are continued further; it starts manifesting in various forms like *Dhamani upalepa*, *Kanta upalepa*, *Dhamani Praticchaya* etc. In this pathogenesis the prime *dosha s* involved are *Kledaka Kapha*, *Pachaka Pitta*, *Samana Vata* and *Vyana Vata*.

Thus, by *dosha dushya vivechana* at first one has advice for *Nidana Parivarjana*. Further administering the *Guru-Atarpana dravyas*, *Vataghna annapana* will helps in inhibiting the satiety center and stimulating the hunger center in hypothalamus thus there will be activation of catabolic circuits and inhibition of anabolic circuits by which there will be increased energy expenditure hence, maintains the homeostasis.

Also, the *dravyas* should be specified by understanding the *avastha* of this condition i.e.; if it is in the stage of *Asthayi/Abaddha avastha* should administer *Virukshaneeya dravyas* which causes *Shoshana* of vitiated *doshas* and *dushyas*. Meanwhile, if it is already progressed further and manifested in the forms of *upalepa*, *praticchaya* means should administer *Chedaneeya dravyas* which does the action of *Strotovishodhana*.

Acharya s also mentioned about the treatment modalities like *Vamana karma*, *Ruksha Ushna Basti*, *Ruksha Udvartana*, *Lekhana Basti* to manage this condition based on the vitiation of *dosha s* and *dushyas*. *Vamana Karma* is said to be the *Pradhanatama* in *shleshma pradhana vikaras*. In addition, *Acharya Sushruta* advised that if *Vamana* is administered in the *Swastha* or in the initial stages of a *vikara*, the chances of occurrence of *Stroto-upalepa* will not be there.¹⁴ *Ruksha Ushna Basti*, *Lekhana Basti* helps in scraping and removing the *dhatugata leena doshas* and acts as a *Prakrutisthapan chikitsa*. *Ruksha Udvartana* is one which helps in pacifying *Kapha dosha* and *vilayana* of *dushya medas*. In toto, when this treatment modalities are employed these will facilitate in eliminating the *dushyas* in circulating lipids and corrects the lipo-protein metabolism by bringing back the action of *Pitta* to its normalcy in *Yakrut* which is responsible for proper *Paka* and *Parinama of Rasa*.

CONCLUSION

In the present era, due to life style modifications like alteration in the food habits, lack of physical activity, increased stress levels people are more in the way towards metabolic disorders like *Dyslipidemia* where there will be hinder in the lipo-protein metabolism.

According to *Ayurveda ahara pachana krama* and formation of *rasa* is the prime phase in physiology. If there is any hindrance in this process due to *Nidana sevana* there will be manifestation of conditions like; *Dyslipidemia* initially and later like *Dhamanipraticchaya*.

Thus, by understanding these stages as explained in our texts and adopting the appropriate management strategies will helps in primary prevention as well as reduction in the onset of further complications.

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