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Role of LekhanBasti in Raktgatsnehavriddhi (hyperlipidaemia)

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ABSTRACT

Hyperlipidemia is a condition in which the levels of lipoproteins [cholesterol, triglycerides (TGs), or both] are raised in the plasma, which can be co-related to raised "*Raktagatsneha*" (lipids) in the body. Hyperlipidemia is contributed by high fat diet, sedentary lifestyle, etc., These causative factors can be compared to *Snigdha, Guru, Picchila Gunasevana,* and *Chesthadvesh*a (lack of exercise), which lead to SantarpanjanyaVyadhis (diseases produced by overnutrition) according to Ayurveda. So *Apatarpana Chikitsa* more specific, "*Lekhana*" (emaciation/desiccation) is the treatment which can remove abnormally increased *Sneha*. *Basti* is indicated in all *strotogatvyadhi*. Thus *lekhan Basti* is useful in *Raktgatsnehavriddhi (hyperlipidaemia).*

Keywords: *Lekhanbasti, in Raktgatsnehavriddhi, Medorog, Hyperlipidaemia*

INTRODUCTION

Hyperlipidaemia is one of the major burning problems in today's era. Lipid and lipoprotein abnormalities are extremely common in general population. Hyperlipidaemia is one of a number of modifiable risk factors for CHD. NCEP (National cholesterol education programme) guidelines of United States recommended cholesterol levels less than 200mg/dl and values exceeding 240mg/dl are considered as high risk factor.[1] Raised cholesterol is estimated to be responsible for 18% of cerebrovascular disease and 56% of ischemic heart disease. Overall, these diseases account for about 4.4 million deaths (7.9% of the total).

Hyperlipidaemia is a condition in which the levels of lipoproteins (cholesterol, triglycerides or both) are raised in the plasma; which can be co-related to raised '*Meda*' (fat) in body. This condition can be co-relate to '*Raktgatsneha vriddhi'*, '*Ras-raktgatsnehavriddhi', 'Medoroga', 'Sthaulya'* etc. Hyperlipidaemia is contributed by high fat diet, sedentary lifestyle etc. These *Nidanas9causative factors)* can be compared to use of *Snigdha, Guru, Picchilam Guna and Chesthadvesha* (lack of physical activity) which leads to *Santarpanajanya Vyadhis* according to Ayurveda. Hence hyperlipidaemia can be stated under broad umbrella of *Santarpanjanya Vyadhis.'*

As *Sneha* is an important constituent of body [2], disarrangement of which may cause imbalance and ultimately leads to various disorders.An abnormal increase in the form of Hyperlipidaemia can disrupt its normal functioning. Hence, it's necessary to have some definite and harmless solution to this problem. World is looking toward *Ayurveda*, as drugs used in modern science to treat hyperlipidaemia has several adverse effects. They include myopathy, potential increase in serum transaminase levels leading to liver damage, nausea, and bowel upset etc,these drugs like statins, fibrates, resins etc. are expensive and therefore hard to purchase for common men. [3] *Apatarpan* is the treatment for *Santarpanjanya Vyadhis*. Taking into consideration all the treatment modalities in *Ayurveda Basti'* seems to be the best, because it is a fastest *Apatarpan*, when prepared with *Apatarpak* drugs [4]. In *Apatarpan* also being more specific *Lekhan* is the treatment which can remove abnormally increased *Sneha*[5].

Lipid metabolism in Ayurvedic View

Metabolism is the set of chemical reactions that happen in living organisms to maintain life [6].Thus it is a process that can be compared to the *Agni* in Ayurveda. The manner in which the nutrition is ingested is digested; the way in which its various components are metabolized into appropriate *Dhatus* and how some of its constituents are broken down for being utilized for the production of energy required for vital activities, depends upon factors which are grouped under the term '*Agni*' [7]. *Jatharagnipaka* can be referred to as the action of lingual lipase and gastric lipase present in the saliva and stomach respectively. Both these enzymes are known to split the fats into fatty acids and glycerol which can be understood as *Sanghatabheda* of ingested lipids. These acts only on fats that are already split up into colloidal droplets viz., the fats present in milk. The undigested fat from the *Amashaya* moves to the *Grahani* where it undergoes emulsification by bile salts to prepare it for the action of water soluble enzymes. The emulsified fat is then split into fatty acids and glycerol under the influence of pancreatic and intestinal lipases. These are again taken up by the epithelial cells of the intestine to form new triglycerides and are released as chylomicrons in the lymph. Action of *Bhutagni* occurs on the substrate after the action of *Jatharagni* and completes process of intestinal digestion of lipids. The function of *Bhutagni* is to make the already digested food more assimilable and ready for the action of *Dhatvagnis*. The lipids being *Ap-Mahabhuta* and *Prithvi Mahabhuta* dominant are acted upon by *Apyagni* and *Parthivagni* in the intestine. Dr. C. Dwarkanath has stated that the *Bhutagnipaka* occurs in liver [8].

C. Dwarkanath has correlated *Parthivagni* with bile salts and *Apyagni* with the intestinal and pancreatic lipases [9].Thus the action of liver is to breakdown fats derived from plants and animal sources to their elemental form and rebuild them in the body as organism specific lipids. Cholesterol is primarily synthesized within the body (endogenous) production in the liver from acetyl CoA through the HMG- CoA reductase pathway. Similarly the liver also synthesizes phospholipids, triglycerides (from fatty acids and also from the excess of carbohydrates and proteins) and other categories of lipids. This synthesis of different categories of body lipids by liver which are easily assimilable within the body cells may be known as the action of the *Bhutagnis.*

The lipoproteins synthesized by the liver can be correlated with *Asthayi Medo Dhatu* or the *Poshaka MedoDhatu*. They can also be referred to the '*Abaddha Medas*' which can be literally translated as unbound or freely circulating fat. These lipoproteins transport the triglycerides, cholesterol and other lipids which are the by-products of *Bhutagnipaka* to different structures of the body as per the tissue requirement. They are known to have certain protein moieties known as apolipoproteins which are fundamental in the lipoprotein metabolism as they are indispensable for both, the catabolism and the anabolism. These moieties called apolipoproteins along with the tissue lipases correspond to the *Medodhatvagni*. In case of the hypo-functioning of the *Medodhatvagni*, homologous nutrients present in circulation as the *Poshaka MedoDhatu* (comprising of different categories of lipoproteins) will be in excess in circulation can be referred to the conditions such as quantitatively increased *Abaddha Meda* or *Asthayi MedoDhatu* which is known as Hyperlipidaemia.

Mode of action of LekhanBasti

Lekhan is the main property on which this *Basti* is named as ***LekhanBasti***

Common Drugs used in *LekhanBasti*

1. *Triphala*
2. *Gomutra*
3. *Kshaudra*
4. *Yavakshara*
5. *UshakadiGana*
6. *LekhaniyaMahakashaya*
7. *Panchatikta*
8. *Agnimantha*

Lekhana Basti has *Sneha, Meda, KledaUpashoshana, Deepana, Pachana, Tikshna, Lekhana, Ruksha,* and *Kapha-Vatahara* properties by virtue of its *Rasapanchaka* dominance. Action of *lekhan Basti* can be explain on the basis of *Rasa, Vipaka, Guna, Virya, Dhoshakarma,* and *shodhan* property of above drugs.

On basis of *Rasa* of *LekhanBasti*

Lekhan Basti has *Tikta Rasa* Dominance followed by *Katu and Kashaya Rasa*. *Acharya Vagbhata* says, Hence, *Basti* may reduce the increased *Kapha* which is the main aggravated *Dosha* in the pathogenesis. *Tikta Rasa* has *Khara* property which is opposite to *Meda* and also it has *Vayu* and *Akasha Mahabhuta* in dominance. According to principle of *Ayurveda, Tikta Rasa* increases body constituents having *Khara* property and *Vayu Akasha Mahabhuta*in dominance. *Katu* rasa is also *Sneha, Meda, Kleda Upashoshaka, Deepana, Pachana*. Hence it may digest the *Ama*and reduce the increased *Kleda* in the body. *Kashayarasa* has *Ruksha, Meda, Kleda Upashoshaka* properties [10].

On basis of *Guna*

Lekhan Basti has dominance of *Laghu Guna* followed by *Ruksha Guna*. *Laghu Guna* is a *Vayu, Agni* and *Akasha, Mahabhuta Pradhana*. It causes *Krishata* and *Dhatukshaya*. Reduction of over nourished *Dhatu* is the main aim of *Lekhana Karma. RukshaGuna* is having *Vayu* and *Agni Mahabhuta* Dominance it has property of *Shoshana* hence dose the *Kledanashana* in the body.

On basis of *Virya*

UshnaVirya is dominated by *Agni Mahabhuta* which is having *Laghu* and *Tikshna Guna*. *UshnaVirya* is responsible for the reduction of Meda. It also is having *Deepana-Pachana* and *Kapha-VataShamaka* property. By the virtue of *Deepana-Pachana Karma Basti Dravya* increases *Agni* at all levels and it reduces *Ama* and corrects *Medo Dhatvagni Mandya*.

On basis of *Vipaka*

KatuVipaka due to its *Laghu Ruksha Guna* causes *DhatuKshaya* and reduces excessive *Meda Dhatu.* Moreover it pacifies increase *Kapha*[11].

On basis of *Doshakarma*

Basti keeps all the five types of *Vata* in their normal status by affecting its Seat- *Pakvashaya*. Thus it also reduces the vitiation of *SamanaVayu*. *Atikshudha* plays most important role in pathogenesis. Because due to obstruction by *MedaVata* remains in *Koshtha* and through *Agni Sandhukshana* it causes *Atikshudha* which leads the person to *Adhyashana* and to take *Guru Snigdha Ahara*. It again causes Vitiation of *Meda* and production of *Ama*. In this way, this cycle goes on. Hence, it becomes very difficult to manage this disease but *Basti* controls the *Samana Vata* and breaks this cycle, thus helps in the management of this disease. Similarly due to use of *Apatarpaka* drugs in the formulation *Basti* results in the *Kaphanashana* also.

On basis of *Shodhana*

LekhanBasti is basically a *Tikshna Shodhana* and it is indicated in *Bahudosha Avastha* which includes *Medovriddhi*[12]. It removes vitiated *Dosha*s from whole body, thus causes *Srotoshodhana*. It makes the further removal of the *Dosha*s from the body possible by its own, hence breaks the *Samprapti*of *Medodushti*.

The combination of *Triphala, Guggulu* and *Pippali* is having dominance of *Laghu-RukshaGuna, Katu-Tikta-Kashaya Rasa* and *UshnaVirya. Triphala* and *Guggulu* are considered as a *Medohara Dravya* and have been mentioned as a part of *Shamana Chikitsa* by various *Acharyas*. *Guggulu* has hypolipidaemic property which reduces *Rasa-Rakta Gata Meda* Beside this *Triphala* stimulates the bile production. Moreover *Pippali* enhances the liver functions and increases bile flow. Thus, both the *Dravya* help in digestion of fat. *Pippali* increases Agni by its *Deepana-Pachana* property thus it increases the *Dhatvagni*, checks the *Medodhatvagnimandya* and digests the *Ama* in *Srotasa*. In this way *Triphala Guggulu* helps in reduction of Hyperlipidaemia.

CONCLUSION

Apatarpana is the remedy for *Santarpanjanya Vyadhis*. Taking into consideration all the treatment modalities in Ayurveda, "*Basti*" seems the best because it is a fastest *Apatarpana*, when prepared with *Apatarpaka* drugs. *Apatarpana* also being more specific, "*Lekhana*" (emaciation/desiccation) is the treatment which can remove abnormally increased *Sneha*. So, in light of the above references from classics of *lekhanbasti Rasa*, *Vipaka*, *Guna*, *Virya*, *Doshakarma*, and *shodhan* properties are useful to reduce hyperlipidaemia. *Lekhana Basti* can be used for effective management of all other subjective and objective parameters of hyperlipidaemia.

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