WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 10, Issue 12, 1106-1013. Review Article ISSN 2277– 7105

# KAPHA MEDO MARGAVARANA AND ITS MANAGEMENT W.S.R ATHEROSCLEROSIS- A REVIEW ARTICLE

**Hemalatha K.[1]* and Shailesh Y.[2]**

[1]Final Year PG Scholar, Department of Kayachikitsa, SDM College of Ayurveda, Udupi.

[2]Assistant Professor, Department of Kayachikitsa, SDM College of Ayurveda, Udupi.

Article Received on
16 August 2021,

Revised on 06 Sept. 2021,
Accepted on 26 Sept. 2021

DOI: 10.20959/wjpr202112-21924

***Corresponding Author**
**Dr. Hemalatha K.**
Final Year PG Scholar,
Department of Kayachikitsa,
SDM College of Ayurveda,
Udupi.

## ABSTRACT

*Kapha Medo Margavarana*, caused due to *shonithabhishyanda*, is regarded as the root cause of many diseases including *Vata vyadhi* and even death. This condition is closely related with Atherosclerosis, the main risk factor for ischemic diseases. Kapha Medohara chikitsa is the prime line of management. Identifying the risk factor and ensuring the appropriate treatment can prevent diseases and fatality.

**KEYWORDS:** *Margavarana, Dhamanipratichaya*, Thrombus, Atherosclerosis, Dyslipidemia.

## INTRODUCTION

Kapha Medo Margavarana is a pathological process, attributed to the obstruction in the arteries/channels (rasarakta marga) by leading to affliction of circulating physiological entities resulting in different ailments.[1]

Atherosclerosis is a progressive inflammatory disorder of the arterial wall, characterised by lipid rich deposits of atheroma within the arterial walls that remain clinically silent until they become large enough to impair tissue perfusion, or until disruption of the atheroma resulting in thrombotic occlusion or distal embolization of a vessel, dyslipidaemia being the main predisposing factor.[2]

Atherosclerotic cardiovascular disease is estimated to affect 126 million people worldwide. Atherosclerotic cardiovascular disease is a leading cause of death worldwide, approximately 9 million deaths in the last 3 decades.[3]

**Etymology**

The locution '*Margavarana'* is made of two distinct words, '*marga*' and '*avarana'*. The word *Marga* refers to pathway/ channel/ vessel. *Vyavaharartha paryaya* being *srotas, dhamani, sira, rasavahini. 'Margavarana'* is mentioned under the *Rasa pradoshaja vikara*, the terms *margoparodha*[4] and *srotasamrodhaha*[5] have been used in the classics. As of this, *Marga* can be considered as the *Rasamarga*. '*Raso Dravadhaturuchyate, Tena Rudhiradinamapi Dravanam Grahanam Bhavati'* conveys that *Rasa* can be considered as any *drava dhatu* in the body, like *Rakta*[6] *Rasa* acts as medium for the circulation of *Rakta*. Hence it can be inferred that the term '*Marga'* refers to *Rasa-rakta marga*. The term '*Avarana'* literally means obstruction/ encapsulation/ inhibition. Avarodha, Abhibhuti, Achadhana are used in different context, which implies *Avarana*. The terminology *Margavarana* signifies obstruction in the channels (rasarakta marga) by kapha-meda, afflicting circulation, resulting in different ailments.

**Etiopathogenesis**

*Santarpana* (excessive nourishing) *Nidana* such as *Shleshmala Ahara Sevana* (consumption of food that aggravates kapha) like *Snigha (*unctuous food*), Madhura (*sweet*), Sheeta* (cold food), *Guru(*heavy*) Ahara*, *Navanna Sevana* (newly harvested rice), *Masha sevana* (Consumption of black gram), *Dadhi a*nd *Paya vikara (*milk products*), Guda vikara* (jaggery and products made of it*) sevana*, *Audaka gramya rasa* (food preperations made up of aquatic and domestic animals), *Adhyashana* (eating before the digestion of the previous meal), *Avyayama* (lack of physical activity), *Divaswapna* (day sleep), *Avyavaya* (obstinence from sexaual activity), *Swapna Prasangat* (excessive sleep), *Achinta* (lack of mental activities), *Harsha nityatvat* (always joyful).[7,8,9]

*Viruddha Ahara* (consumption of combinations of food which are contradictory in nature*)* such as fish and milk, also consumption of vegetable such as pushkara, rohini or meat of kapota fried in mustard oil consumed with honey and milk.[10] *Beeja dosha swabhava* (genetic abnormality).

Hyperlipidaemia/Dyslipidaemia, more specifically, hypercholesterolemia is a major risk factor for development of atherosclerosis. The aetiology of dyslipidaemia (metabolic syndrome) is complex; genetic, environmental, and psychologic factors are involved. It is a disorder of energy balance. The two sides of the energy equation, intake and expenditure, are finely regulated by neural and hormonal mechanisms. Apparently, this fine balance is

controlled by an internal set point, or "lipostat," that senses the quantity of energy stores (adipose tissue) and appropriately regulates food intake as well as energy expenditure.

**Diet**: High dietary intake of saturated fats. **Physical activity:** lack of physical activity **Genetics:** Family history is the most important risk factor for atherosclerosis. (E.g. Primary hypercholesterolemia). **Age:** Atherosclerosis usually remains silent until lesions reach a critical threshold in middle age or later. Thus, the incidence of myocardial infarction increases 5-fold between 40 and 60 years of age. **Gender**-All other factors being equal, premenopausal women are relatively protected against atherosclerosis (and its consequences) compared with age-matched men. Thus, myocardial infarction and other complications of atherosclerosis are uncommon in premenopausal women in the absence of other predisposing factors such as diabetes, hyperlipidaemia, or severe hypertension. **Cigarette smoking** is a well-established risk factor in men and probably accounts for the increasing incidence and severity of atherosclerosis in women. **Diabetes mellitus** is associated with raised circulating cholesterol levels and markedly increases the risk for atherosclerosis.[11]

The above said nidana leads to kapha medho (abaddha medas) vriddhi in the shareera, the aggravated kapha and medas accumulates in shonitha circulating in the body, leading to Shonithabhishyanda (dyslipidemia). Further, there will be accumulation/adherence of kapha and medas within the rasarakta marga (dhamani upalepana) leading to narrowing of the channels. This phenomenon is known as Dhamani pratichaya.[12] As it progresses, '*Dhamanipratichayaha Sirajagranthihi.*[13]' there will be formation of granthi within the sira (thrombus formation), leading to the final phenomenon that is margavarana (obstruction in the arteries/rasarakta marga), which is the root cause of many diseases including vatavyadhi.

Sedentary lifestyle and other risk factors end up in causing dyslipidaemia/hyperlipidaemia (*Shonithabhishyanda*). Dyslipidaemia is a contributing factor for endothelial injury, the initial stage in the pathogenesis of atherosclerosis. Endothelial injury and resultant endothelial dysfunction leading to increased permeability, leukocyte adhesion, accumulation of lipoproteins (mainly oxidized LDL and cholesterol crystals) in the vessel wall (*Dhamani upalepa*). Initially, Fatty streaks begin as minute yellow, flat macules that coalesce into elongated lesions, 1cm or more in length. They are composed of lipid-filled foam macrophages but are only minimally raised and do not cause any significant flow disturbance. Fatty streaks progress to Atheromatous plaques which will be white to yellow raised lesions; they range from 0.3 to 1.5cm in diameter but can coalesce to form larger masses. Rupture,

ulceration, or erosion of the luminal surface of atheromatous plaques exposes highly thrombogenic substances and induces thrombus formation (*Sirajagranthi*). Thrombi may partially or completely occlude the lumen, leading to tissue ischemia. It underlies the pathogenesis of coronary, cerebral, and peripheral vascular disease (*Margavaranajanya vyadhi*)**.**[14]

**Kapha medo margavaranajanya vyadhi**

When we look into classics, we find references of margavarana leading to different diseases. Kapha medo margavavarana in shakha sandhi leads to Vatarakta, which can be related to Peripheral Arterial Diseases.[15] Pathogenesis involved in Vata vyadhi is either dhatukshaya or margavarana, which is best matched with stroke caused due to Cerebral Infarction.[16,17] Margavarodha by kapha in hrudaya leads to hrud shoola, which can considered as Coronary Heart Disease.[18,19] Margavarana in basti (renal system) leads to mutroukasada, can be related to Renal artery stenosis.[20] Vataja Unmada can be caused due to margavarana, which can be best understood as Vascular dementia.[21]

While explaining regarding margavarana, Acharya Vagbhata clarifies that it is *Animitta* (*Animittam akasmat)* that is marvavarana is sudden in onset. Margavarana is said to be occurring especially during night hours (*visheshato ratraviti*). The same can be related in modern medicine as the infarction caused due to thromboembolism is of sudden onset and often occurs during night hours.

**Chikitsa**

Before administering the treatment, the physician has to analyze the dosha and dhatu involved, or might end up in complications. If physician employs sneha, merely based on the lakshana without understanding the pathogenesis (kaphamedo margavarana), there will be worsening of the condition. Hence understanding the samprapti especially when it is kaphamedo margavarana, before adopting the treatment is very essential.[22]

Chikitsa can be broadly categorized under Nidana parivarjana/ Utpatti hetu parihara, Sroto shuddhikaraka chikitsa, Vyadhi pratyanika chikitsa, Rasayana,[23,24,25,26,27]

Utpatti hetu parihara- Nidana parivarjana (avoiding the causative factors) is the prime line of management. Avoiding the food and regimens/ risk factors mentioned under the etiology.

Srotoshuddhkaraka chikitsa- Shodhana has to be administered based on the bala of the patient. It can be in the form of kramataha virechana (purgation), nitya virechana, lekhaana basti (enema), raktamokshana (bloodletting). Administration of Shamana aushadhi that does srotoshodhana by virtue of their lekhana (scraping) and chedana (excising) karma such as Shilajathu(black bitumen), Guggulu (Commiphora mukul), Gomutra(cow's urine), Loha raja(loha bhasma), Triphala, Rasanjana, Madhu (honey) has been emphasised. Rukshana karma in the form of Takra (buttermilk) prayoga, Haritaki (Terminalia chebula) prayoga, Purana Yava (barley), Godhuma (wheat), sandhana kalpana (alcoholic preperations)- Asava, Arishta, Sidhu, Sura prayoga, Udwartana.

Anabhishyandhi ghrita prayoga, in margavarana janya vatavyadhi as it is kapha viruddha, vatanulomaka, srotoshuddhikaraka. Eranda taila prayoga,[28] is said to shreshta in case of Kaphamedo margavarana. Eranda taila can administered along with different Anupana or sahapana like mamsarasa/ paya/ triphala qwatha/ gomutra based on the condition of the patient.

Rasayana prayoga- Shilajathu rasayana, Haritaki rasayana, amalaki rasayana, Bhargava prokta rasayana, Brahma rasayana.

Pathya-Apathya- Diet and lifestyle plays an important role in managing margavarana or atherosclerosis. Diet- Purana Shali(old harvested rice), Yava (Barley), Godhuma (Wheat), Kodrava (kodo millet), Uddalaka, Adakki (pigeon pea), Priyangu (beauty berry), Vartaka (eggplant), Madhodaka, Ushnajala, Takra, Sarshapa taila, Tila taila, Sura, Sidhu variety of alcoholic preperations. Physical activity- Vyayama, Vyavaya, Srama, Asukha shayana, Atapa sevana, Adhwayana.

Following Dinacharya, Rutucharya is the major lifestyle modification that has to be adopted. Not just consuming proper diet, but also one has to follow the rules of taking food (*Ahara vidhividhnam*).[29]

## CONCLUSION

Santarpana nidana (sedentary life style) being the main etiological factor in manifestation of shonitabhishyada (dyslipidemia), which further leads to dhamani pratichaya. When left untreated ends up in Margavarana, which is the main pathogenesis behind many diseases like vatavyadhi, vatarakta, hrudshoola. The same phenomemom can be related to

thromboembolism caused due to atherosclerosis leading to various atherosclerotic vacular diseases like stroke, myocardial infarction, peripheral arterial diseases. Thus, chikitsa mentioned in the classics such as Shodhana, Shilajatu, Guggulu prayoga and other Rasayana along with pathya ahara and vihara is appropriate, which would help in relieving margavarana and further prevent prognosis of the diseases.

**ACKNOWLEDEMENT**

I would like express my deep and sincere gratitude to my guru the late Dr. G. Shrinivasa Acharya. I am truly grateful to mu guide Dr. Shailesh Y., for his valuable time, patience and support throughout my PG curriculum. My deep gratitude to our HOD, Dr. Shrilatha Kamath T, for her encouragement and valuable suggestions. I would like to extend my thanks to all the faculty of Department of Kayachikitsa and Manasaroga, SDMCA, Udupi.

**REFERENCES**

1. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 73: 824.
2. Davidson S S. Davidson's Principles and Practice of Medicine. Brian R Walker, Nicki R Colledge, Stuart H Ralston, Ian D Penman, China: Elseiver Limited, 2014; 579: 1372.
3. Khan MA, Hashim MJ, Mustafa H, Baniyas MY, Al Suwaidi SKBM, AlKatheeri R, et al. Global Epidemiology of Ischemic Heart Disease: Results from the Global Burden of Disease Study. Cureus, 2020; 23, 12(7): e9349. doi: 10.7759/cureus.9349. PMID: 32742886; PMCID: PMC7384703. Available at https://pubmed.ncbi.nlm.nih.gov/32742886/
4. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 116: 824.
5. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 179: 738.
6. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 516: 738.
7. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 73: 824.
8. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 122: 738.

9. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 116: 738.
10. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 149: 150-738.
11. Davidson S S. Davidson's Principles and Practice of Medicine. Brian R Walker, Nicki R Colledge, Stuart H Ralston, Ian D Penman, China: Elseiver Limited, 2014; 581: 1372.
12. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 115: 738.
13. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 150: 738.
14. Davidson S S. Davidson's Principles and Practice of Medicine. Brian R Walker, Nicki R Colledge, Stuart H Ralston, Ian D Penman, editors. hina: Elseiver Limited, 2014; 579-581: 1372.
15. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 629: 738.
16. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 73: 824.
17. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 629: 738.
18. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 627: 738.
19. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 726: 824.
20. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 719: 738.
21. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 470: 738.
22. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 686: 738.
23. Sushruta. Sushruta Samhita. Vaidya Jadavji Tricumji Acharya, editor. Reprint. Varanasi: Chaukhambha Krishnadas Academy, 2014; 824: 73-74.
24. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 627: 738.

25. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 634: 738.
26. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 738: 603-604.
27. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 470: 738.
28. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 599: 738.
29. Agnivesha. Charaka Samhita. Yadavji Tricamji Acharya editor. Varanasi: Chaukhamba Surabharathi Prakashan, 2018; 236: 738.