

**THE SYSTEMIC REVIEW ON MEDOROGA W.R.T.
DYSLIPIDAEMIA: REVIEW ARTICLE**

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ABSTRACT

Dyslipidaemia is characterised by an increase in total cholesterol, low-density lipoprotein cholesterol (LDL), and triglyceride (TGL) concentrations in the blood, as well as a decrease in good high-density lipoprotein cholesterol (HDL). Dyslipidaemia is a major lifestyle disorder that has been linked to a variety of diseases, including cardiovascular disease, the metabolic syndrome, and hypertension. Due to its involvement in the pathogenesis of atherosclerotic disorders like coronary heart disease (CHD), a major source of morbidity and mortality worldwide, dyslipidaemia has attracted interest from all over the world. It might be like *Medoroga* in *Ayurveda*. A surplus of Meda Dhatu is referred to as Medo Roga. Medovridhi results in a condition

that limits the ability of other Dhatus to eat.

KEYWORDS: Dyslipidaemia, *Medoroga*, *Ayurveda*.

INTRODUCTION

According to Acharya Sushruta "*Sharira Dharanata Dhatawa Iti Uchyate*" which means *Dhatu*'s are seven entities which helps to stabilize body and give body the quality of lasting for longevity. There are total seven *Dhatus* in body they are *Rasa*, *Rakta*, *Mamsa*, *Meda*, *Asthi*, *Majja* and *Shukra*. Among them *Meda* is one of the seven *Dhatu*'s present in body. The *Prakrita Karma* (Functions) of *Meda Dhatu* is to produce lubrication and greasiness in the body and sweating which helps to keep the skin moist. *Meda Dhatu* gives strength to the

body and provides nourishment to the bones. The quantity of *Meda Dhatu* in the body is 2 *Anjali*.^[1] When the *Sara Bhaga* (nutrients) of *Medo Dhatu* present in *Mamsa Dhatu* gets transformed into *Medo Dhatu* by *Mamsa Dhatwagni* with an additional accumulation of *Jala Mahabhuta* part, it makes the *Meda Dhatu Snighda* and *Drava* in nature.^[2]

According to *Acharya Susrutha*, when there is excess deposition of *Medo Dhatu* in body it may produce excessive greasiness in the body which results in a very bad smell, enlargement of abdomen and flanks (pendular hanging), cough, breathlessness are some other symptoms too.^[3] Apart from this, *Acharya Vagbhatta* has mentioned sign and symptoms of *Medo-Vriddhi* are as following-tiredness and breathlessness even on slight exertion, Pendulous hanging of buttocks, breast and abdomen due to excess accumulation of *Meda Dhatu*.^[4] According to *Yogaratanakar*, *Nidana* of *Medoroga* are Lack of physical exercise, sleeping during daytime and intake of *Kapha Dosha Vardhaka* diet. The sweet juices which convert into *Sneha* which leads to accumulation of *Meda Dhatu*. *Medoroga* is when accumulated *Meda Dhatu* blocks *Strotasa*'s, other *Dhatu*'s does not properly nourished as a result *Meda Dhatu* further gets increased. The person with *Medo Roga* will have *Kshudra Shwasa* (breathlessness), *Trisha* (excessive thirst), *Moha*, *Swapna* (excessive sleep), *Krathana* (Sudden obstruction of breath), *Sadana* (looseness of the body) *Kshuta* (Excessive hunger), *Sweda* (excessive sweating), *Daurgandhya* (foul body smell), *Alpa prana* (Fatigue), *Alpa Maithuna* (loss of libido).^[5]

Description of *Medoroga* has been given in various classical texts. Though in *Ayurvedic Brahatrayi*, no explicit terminology has been given for *Medoroga*. *Medoroga* is described as a separate entity in *Madhav Nidana*, *Yogratnakar* and *Bhaishajya Ratnavali*. From the perspective of literature available in *Samhita*, *Medoroga* can be very well correlated with Dyslipidaemia by referring to the underline pathogenesis and clinical symptomatology.

The term "dyslipidaemia" refers to a disorder of lipoprotein metabolism that can result in either an excess or a deficiency of lipoprotein, or both. The disorder can manifest as an increase in plasma cholesterol, triglycerides or both, or low levels of high-density lipoprotein, or all three of these factors taken individually or all three taken together.^[6] Lipoproteins are the tiny lipid, phospholipid, triglyceride, and protein-containing blood particles. In healthy conditions, HDL (high density lipoproteins) carries phospholipids and cholesterol back to the liver from tissues and organs like the heart. Low density lipoprotein or LDL, moves phospholipids and cholesterol from the liver to tissues and organs like the heart. Triglycerides

are transported from the liver to adipose tissue via the very low-density lipoprotein (VLDL). Lipoprotein abnormalities cause dyslipidaemia.^[7]

Normal Ranges of lipids

Total Cholesterol - < 200 mg/dl

Triglyceride - < 150 mg/dl

HDL molecules - > 50 mg/dl

LDL molecules - < 100mg/dl

VLDL molecules - < 150mg/dl

Dyslipidaemia is a well-established modifiable risk factor for development of Cardiovascular diseases, Stroke, Type 2 Diabetes, Atherosclerosis etc; Since Cardiovascular diseases are one of the leading causes of deaths globally and a strong association is being present between dyslipidaemia and CVDs, timely diagnosis and aggressive management of Dyslipidaemia is critical to lower the incidence of mortality caused by CVDs and cerebral strokes.

PREVALENCE

Depending on the population age and ethnicity, dyslipidaemia prevalence differs around the world. Because dyslipidaemia typically presents as a subclinical condition with no symptoms, its incidence in India is unknown. About 25 to 30 percent of urban and 15 to 20 percent of rural respondents in India have dyslipidaemia. Although it affects both sexes, men are more likely to experience it. Ages 30 to 40 have tendency to get affected with high prevalence but after 60 it becomes noticeably high.^[8] According to the Sevillians project of the Indian Council of Medical Research, 37.5 percent of adults between the ages of 15 and 64 have dyslipidaemia.^[9]

AIM AND OBJECTIVE

1. To review the available literature in Ayurvedic text and its correlation with modern literature on Dyslipidaemia.
2. To review *Medoroga* in the context of Dyslipidaemia.
3. To review the management of *Medoroga*.

MATERIAL AND METHODS

For this review, materials from the traditional Ayurvedic literature, modern literature, the Pharmacology (*Dravyaguna*) and *Rasashastra* books, periodicals, and research journals, as well as the Pub-med medical database, were gathered.

NIDANA

Aharatmaka Ati Sampuran (Over-eating), *Guru* (heavy), *Madhur* (sweet) *Sheeta* (cold) *Snigdha* (oily), *Anna Sevana*

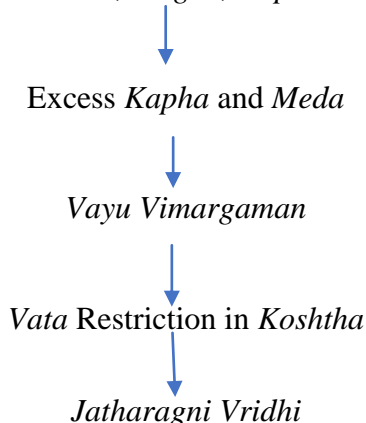
Avyayama (Lack of exercise), *Avyavaya* (Abstinence from sexual activity), *Harshanitya* (Leading a worryless, luxurious life) *Achintana* (Lack of worry), *Diwaswapan* (Daytime sleeping). *Viharatmak Nidana* indicates decreased physical activity aggravating *Kapha Dosha*, which leads to *Medo* deposition, *Diwaswapan* possessing *Abhishyanadi* property, resulting in blockage of microchannels, especially in *Medovaha Strotasa*.

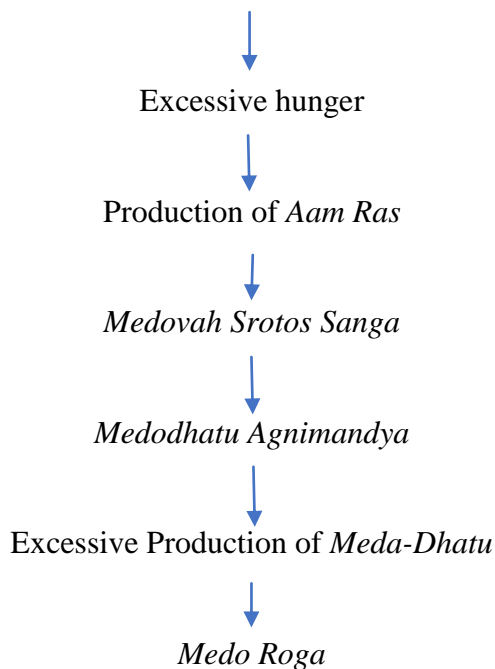
Acharya Charak added *Beejaswabhaba* (hereditary factor) to the list of *Nidanas*.^[10]

PATHOGENESIS OF MEDOROGA^[11]

Acharya Charak stated, *Vata Dosha*, which has its channel blocked by fat, moves about a lot in the stomach and so accelerates digestion and absorbs food. As a result, the person consumes excessive amounts of food and digests food quickly. He suffers from several quite serious disorders if eating is delayed. When there is an excessive increase in fat, the *Doshas* abruptly give rise to serious problems and quickly endanger life. *Acharaya Charka* has *Ahara* as most common factor for *Medovridhi* while *Susuruta* has emphasised on the concept of *Ama Dosha*. *Kaphavardhak Aahar Vihara* leads leads to formation of undigested *Aam Rasa* which further leads to excessive *Medovridhi* Also *Madhavkara* stated that, Due to excessive increase in fat channels get obstructed and thus nutrition to other *Dhatu* is not possible only accumulation of fat takes place.^[12]

Nidan Sevan (Guru, Madhur, Snigdha, Kapha Pradhan Aahar Vihar)



**SAMPRAPTI GHATAK**

Dosha:	<i>Tridosha (Kledak Kapha Pachak Pitta Samana Vayu)</i>
Dushya:	<i>Rasa Meda</i>
Agni:	<i>Jathragnivridhi Medadhatavagni Mandya</i>
Strotas:	<i>Medovaha</i>
Strotodhushti:	<i>Sanga</i>
Udbhavastahn:	<i>Amashya</i>
Adhistan:	<i>Vrikka Vapavahana (where Medodhara Kala is present in Body)</i>
Vyakta Stana:	<i>Sarva Sharir specially Sphik Sthan Udara Gala.</i>
Roga Marga:	<i>Bahya</i>
Vyadhi Swabhava:	<i>Chirkari</i>
Sadhyata:	<i>Krichsadhya</i>

RUPA (CLINICAL FEATURES)

Kshudra Shwasa (breathlessness), *Trisha* (excessive thirst), *Moha*, *Swapna* (excessive sleep), *Krathana* (Sudden obstruction of breath), *Sadana* (looseness of the body) *Kshuta* (Excessive hunger), *Sweda* (excessive sweating), *Daurgandhya* (foul body smell), *Alpa prana* (Fatigue), *Alpa Maithuna* (loss of libido).^[13]

Eight Doshas (disabilities) of *Medo Roga* have been mentioned in addition to these cardinal symptoms, along with their expanded aetiology, which is as follows.^[14]

Ayushohrasa (Reduction in life expectancy): As a result of the excessive production of consequently, *Medo Dhatu* at the expenditure of other *Dhatu*, other *Dhatu*s were unable to receive adequate nutrition.

Javoparodha (Lack of enthusiasm): Javoparodha is a result of Meda Dhatu's Shaithilya (flabbiness), Saukumarya (delicacy), and Guruta characteristics. As a result, they take their time starting the work.

Kricchavyavaya (Difficulty in performing sexual act): Due to obstruction in genital passage by *Meda Dhatu* and non-abundance of semen.

Daurbalya (Debility): This result due to disequilibrium of *Dhatus* owing to malnourishment of the *Dhatus*.

Daurgandhya (Foul smelling of body): Bad odour is caused by profuse perspiration, a natural property of Meda Dhatu, and the morbid character of vitiated Meda.

Swedabadha (Distressful sweating): On account of the admixture of *Kapha* with *Meda*, *Vishyandi*, *Bahutva* and Guru properties of *Meda*.

Kshudhatimatrata (Excessive hunger): due to the vitiation of *Vata* caused by the blockage of Meda and the increased Agni in *Koshtha*.

Pipasa Atiyoga (Excessive thirst): because of enhanced Agni in *Koshtha* and vitiation of *Vata* caused by *Meda's* blockage.

UPADRAVA

Visarpa, Bhagandara, Jvar, Atisaar, Prameha, Arsha, Shleepad, Apachi, Kamla, Prameha Pidika Vidradhi.^[15]

MANAGEMENT

The management of the diseases resulting from the vitiation of *Medovaha Srotas* should follow the guidelines for treating *Medoja Roga's* (fat-related disorders) described in *Ashtau Ninditeeya* chapter (chapter 21 of *Charaka Sutra Sthana*). The general management principles in *Ayurveda* are classified into

- 1) *Nidana Parivarjana.*^[16]
- 2) *Guru Cha Aptarpanam Cheshtam Sthulanam Karshanam Prati.*^[17]
- 3) *Samshodhana*
- 4) *Samshamana*

➤ **NIDANA PARIVARJANA**

Avoiding the factors that are the primary cause of *Medoroga* is the first line of treatment. All of the *Aharatmak*, *Viharatmak*, *Mansika*, and other described *Nidana* must be avoided in order to stop the disease's progression.

➤ **SAMSHODHAN THERAPY**

Being a *Bahu Doshasya Vyadhi Samsodhana* therapy is highly recommended for patients of *Medoroga*. *Ruksha Udavartan* (*Bahya Shodhana*) is advised for *Sthool Purusha*. It is *Kaphahara* and *MedasaPravilayana* in action. *Abhyantara Shodhana* employed for the patient are *Vamana*, *Virechana*, *Rakatmokshana*, *Ruksha*, *Tikshna* and *Ushna Basti*. It helps in scraping out the excessive accumulated *Meda* and *Kapha* from the body and also pacifies the other two *Doshas*.

➤ **SHAMAN CHIKITSA**

1. Guggulu

A) Navak Guggulu^[18] (*Dashang Gugglu /Vyoshadi Gugglu*)

Composition: *Shunthi Marich, Pippali Amalaki Haritaki Bibhitaki Chitrakmul Vidang Nagarmotha Shudhh Gugglu*

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated in *Medoroga* and *Aamvat*.

Dose: 2-3 grams daily in divided doses with warm water.

B) Amritadi Gugglu^[19]

Composition: *Guduchi, Choti Ilayachi, Vayvidang, Indrjo, Amalaki, Haritaki, Bibhitaki, Gugglu*

Indication: In *Bhavprakash Madhyakhand Chikitsaparakarn Medochikitsaparakarn*, it is indicated in *Pidika, Stholya, Bhagandar*.

Anupana: *Madhu*

Dose: 2-3 grams daily in divided doses with warm water.

C) Trushnadi Gugglu^[20]

Composition: *Shunthi, Marich, Pippali, Pippalimool, Nagarmotha, Vayvidang, Vacha, Gugglu*

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated in *Kaphaj Roga, Vataj Roga, Medoroga*.

Anupana: *Madhu and Ghrit*

Dose: 1 Masha (8 Ratti).

2. Churna^[21]

A) Phaltrikadi Churna

Composition: *Amalaki, Haritaki, Bibhitaki, shunthi, Marich, Pippali*

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated as *Kaphohar, Medohar, Vatahar*.

Dose: 1 *Karsh* (10 – 12 g daily in divided doses)

B) Guduchyadi Churna

Composition: *Guduchi Churna* (*Tinospora cordifolia*), *Musta Churna* (*Cyperus rotundus*) mixed with *Takrarishta* and *Honey*

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated in *Medoroga*.

Dose: 1 *Karsh* (10 – 12 g daily in divided doses)

C) Tryushnadi loha

Composition: *Shunthi, Marich, Pippali, Pippalimool, Amalaki, Haritaki, Bibhitaki, Chavya, Chitrak, Vida Lavana, Audvidh Lavana, Bakuchi, Saindava Lavana, Loha Bhasma*.

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated in *Atisthoulya, Agnivardhak, Medoroga, Prameha, Kushtha, Kaphaj Roga*.

Anupan: *Madhu* and *Ghrit*

Dose: 1 *Masha* (8 Ratti)

3. Ras^[22]

A) Rasbhasma

Composition *Parad Bhasma Rassindhur*

Indication In *Yogaratanakr Medochikitsa Adhyaya* it is indicated in *medokrit Sthoulya*.

Anupan *Madhu* mixed with warm water

Dose 2 Ratti (250 mg)

B) Trimurti Ras

Composition: *Shuddha Parad, Shuddha Gandhak, Loha Bhasma, Shadushna (Pippali, Pippalimool, Chavya, Chitrak, Shunthi, Marich), Triphla (Amalaki, Haritaki, Bibhitaki), Panch Lavan, Bakuchi*.

Indication: In *Yogaratanakr Medochikitsa Adhyaya*, it is indicated in *Medoroga, Shotha, Mandagni, Aamvat, Kaphaj Roga*.

Dose: 1 Aksha (10- 12 g daily in divided dose)

C) *Vadavagni Ras*

Composition *Shudha Parad Tamra Bhasma Tal Bhasma Shuddha Gandak*

Indication In *Yogaratanakr Medochikitsa Adhyaya* it is indicated in *Sthoulya*.

Anupan *Madhu*

Dose 2 Ratti (250 mg)

4. Other yoga

A) *Loha Rasayan*^[23]

Composition *Gugglu Talamuli, Haritaki Bibhitaki Amalaki Khadira Vrisha Trivrita Alambusha Snuhi, Nirgundi Chitrak Shati Tikshna Lauha Churna Purana Sarpi Sharkara, Makshika Shilajatu Ela Twak Vidanga Marich Anjana Pippali Kasisa*

Indication In *Bhavprakash Madhyakhand Chikitsaparakarn Medochikitsaparakarn* it is indicated in *Medoroga*. It is also indicated in *Vataj Roga Kaphaj Roga Kushtha Prameha Udar Roga Kamala Pandu Roga Shotha Bhagandra Murcha Moha Visha Unmad Visham Jwara*.

Anupan *Ksheer, Jangal Mansaras*

Dose 1 Tola (10- 12 g daily in divided dose)

B) *Arogyavardhni Vati*

Composition *Shuddha Parada Shuddha Gandhak Loha Bhasma Abhrak Bhasma Tamra Bhasma Shilajatu Gugglu Chitrakmool, Neemba Katuki, Haritaki, Bibhitaki, Amalaki*.

Indication It is indicated in *Kushtha Jwara, Deepan Pachni Hridye Medoroga Sarva Roga*.

Dose 1 Karsh matra (10 – 12 g daily in divided doses)

C) *Trikatu*^[24]

Composition *Shunthi Marich Pippali*

Indication It is indicated in *Swas Kas Twaka Roga Gulma Prameh Sthoulya Medoroga Slipada, Peenas*.

Dose 1 Karsh (10 – 12 g daily in divided doses)

5. Kashaya

A) Varunadi Kwath^[25]

Composition Varuna Sahcahara, Satavari Agni Murva Bilva Ajaji Brihati Kantkari Karanja Chiruvilwa Agnimanth Haritaki Sigrum Dharbha Bhallataka.

Indication It is indicated in Medoroga Mandagni Vaatrakta Shirashool Gulma Vidharadhi.

Dose 2 Pal (80 ml daily in divided doses)

Other single or compound drugs

Guduchi Triphla, Makshika Bhadramusta Takrarishta, Bilvadipanchmool Vidangadi Lauha Shilajatu with Agnimanth.^[26]

PATHYA - APATHYA

APATHYA AHAR VIHAR^[27]

Apathya Ahara	Apathya Vihar
Godhuma (Wheat), Navanna, Sali Ikshu (sugercane), Navnit, Ghrita Dadhi (curd) Anupa, Audaka Masha, Tila	Divaswapan (Day sleeping) Avyavaya (Reduce sexual activities.) Avayayam (Less workout) Swapam Prasang (Extreme sleeping) Nitya Harsh (Cheerfulness) Sukh Shaiya (Relaxed quilt), Achintana (Less stress) Manso Nivriti (Sluggish mind)

PATHYA AAHAR VIHAR

Pathya Ahara Varga ^[28]	Pathya Vihara
Dravya (Liquids): Takra (Butter milk), Madhu (Honey), Ushnodaka Til Tail, Sarshap Tail (mustard oil), Arishtha Asava (fermented drugs), Jirnamadya Dugdha. Shuka Dhanya (Cereals): - Yava (barley), Venuyava, Kodrava (millets), Navanna, Shali (rice paddy). Shami Dhanya (Pulses): - Mudga (green gram), Rajmasha (cow pea) Kulattha (Horse gram), Chanak, Masur, Adhaki Masha (Black gram) Tila (sesame seed). Shaka Varga (Leafy vegetables): - Vruntak, Patrashaka, Patola, Madhurshaka, Kanda. Phala Varga (Fruits): - Kapitha Jamun (Indian Black berry) Amalak (Gooseberry) Madhuraphala.	Shrama (Exertion) Vyayam (Exercise) Jagarn (Awakening in late nights) Chintha (Rational) Vyavay (Sexual activity) Shoka (Grief) Krodha (Rage)

DISCUSSION

Dyslipidaemia is one of the most common metabolic conditions known to mankind. The condition is speed up by an inactive lifestyle, a lack of exercise, poor eating habits, and urbanisation. Dyslipidaemia increases the risk of atherosclerosis, which in turn increases the chance of catastrophic conditions like cardiovascular disease and cerebrovascular accidents. Its aetiopathogenesis is significantly influenced by both genetic predisposition and psychosocial variables.

All three doshas are involved in *Medoroga*, but the vitiation of *Kapha-Vata* and *Meda* is of particular significance. The goal of "*Medoroga*" treatment is to reduce *Vata*, *Agni*, and *Meda*. It is difficult to work because neither the *Santarpana* nor the *Aptarpana* modes of transportation are available. At the same time, *Samtarpana Chikitsa* calms *Vayu* and *Agni*, but *Meda Dhatu* rises as time passes. *Aptarpana*, on the other hand, lowers *Meda* while increasing status in the body of *Agni* and *Vayu*.

CONCLUSION

According to *Ayurveda*, the chief etiological causes that cause vitiation in the *Medoroga* include a lack of physical activity, daytime sleepiness, and an excessive intake of fatty meals. Due to the vitiation of the *Kapha Dosha* and the diminished efficiency of the *Medo Dhatvagni*, *Medovaha Srotodushti* develops. This results in an accumulation of *Meda* and, eventually, dyslipidaemia. Dyslipidaemia and its complications can be avoided to a greater extent by changing one's lifestyle and diet. In *Ayurveda*, *Nidan Parivarjan* is the first line of treatment mentioned in *Ayurveda* for the management of *Medoroga*. The main approaches in the treatment of *Medoroga* Dyslipidaemia are to stop the formation of *Apakva Kapha* and *Meda*, clear the *Avarana*, and then restore normal *Vata* movement. The significance of *Pathya Sevan*, *Lekhana Karma*, *Upavasa*, *Swedana*, *Virechana*, and *Medonashak Aushadis* has been mentioned in *Ayurvedic* texts.

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