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UNDERSTANDING MEDOROG: A KEY RISK FACTOR FOR HRIDROG (CARDIOVASCULAR DISEASE) IN AYURVEDA

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ABSTRACT

Owing to the current era's rapid development, sedentary lifestyle, and plenty of nutrition, non-communicable diseases have dramatically expanded and are currently the world's leading cause of mortality. One dietary lifestyle issue that affects both industrialised and developing nations is obesity. Due to changes in working conditions and lifestyle (*Ahar, Vihar, and Manasika*), obesity (*Sthaulya*) is on the rise globally. The illness known as obesity is defined by elevated body weight and excessive fat accumulation. It is the primary source of excessive calorie intake, decreased physical activity, and ultimately, major health issues like diabetes, cardiovascular disease, and arthritis. Additionally, it shortens life expectancy on average and lowers life quality. According to *Ayurveda*, obesity, or *sthaulya*, is a state in which the body's *Doshas* are aggravated, leading to an improper transformation of nutrition, the development of additional *Medodhatu,* and the wrong use of nourishment to nourish other *Dhatus*.

KEYWORDS: Obesity, sthaulya, cardiovascular disease, death, medodhatu, nutrition.

INTRODUCTION

In *Ayurveda*, obesity is referred to as *Sthaulya/Medoroga.* There is no age or gender limit to *obesity*. In the *Charak Samhita Sutrasthana, Acharya Charaka* gives a description of obesity in *Ashtaunindit Adhyay.* Additionally, the *Sushrut Samhita, Madhav Nidan, Ashtang* Holiday, and other texts have descriptions of *obesity.*

The human body, according to Ayurveda, has been classified into *seven dhatus*: *Rasa (lymph), Rakta (blood), Maans (muscles), Meda (fat), Asthi (bones), Majja (nervous system),* and *Shukra* (reproductive system). In *Sthaulya*, some *Meda dhatu* receive extra nourishment, while others do not. It is well recognised that obesity is a widespread health issue in India that results from the body accumulating too much fat, which can cause a number of different health issues. The mortality and morbidity rates of obese people are higher than those of non-obese people. As was obvious from 33 cohort studies conducted in the Asia-Pacific area, an adult's body mass index (BMI) of greater than or equal to 21 kg/m2 was linked to the development of ischemic heart disease and type 2 diabetes mellitus (DM).Stroke, cancer of breasts, cancer of colon and pain in joints etc.

Obesity is a multifactorial disease with a complex pathogenesis related to biological, psychosocial, socioeconomic, and environmental, factors and heterogeneity in the pathways and mechanisms by which it leads to adverse health outcomes. The 2013 American Heart Association/American College of Cardiology/The Obesity Society Guideline for the Management of Overweight and Obesity in Adults uses the World Health Organization (WHO) criteria to define overweight and obesity as body mass index (BMI) 25 and 30 kg/m2, respectively.

Although body mass index (BMI) is strongly correlated with percent body mass index (BMI) across populations, its predictive ability to estimate body mass index (BMI) for any given individual10–12 with considerable variation by sex, age, and race/ethnicity is limited.

Moreover, proportion of both BMI-related deaths (41%) and BMI disability-a disability-adjusted life-year 34% were caused by CVD.

In addition to CVD, obesity has been shown to increase the risk of high blood pressure (HBP). Persistent hypertension is a leading cause of chronic kidney failure and is a risk factor for stroke, myocardial infarction (MI), heart failure, and arterial aneurysm. Moderate elevation of arterial blood pressure leads to shortened life expectancy, which also increases the risk of heart diseases.

Obesity also adds the risk when taking into account is taken of coexisting risk factors. Obesity is associated with elevated blood pressure, blood lipids, and blood glucose; changes in body weight are coincident with changes in these risk factors for disease.

METHODOLOGY

The connection between sthaulya and medorog

In the present day, obesity and cardiac disorders are quite common. Because they are frequently thought of as connected illnesses and have been shown to be so in practice, they may be seen as two sides of the same coin.

Being overweight or obese puts you at a higher risk of developing heart disease.

One of the major modifiable risk factors for Coronary Artery Disease (CAD) is obesity, or Medoroga / Sthoulya. Obesity, plasma cholesterol level, familial hyperlipidemia, physical inactivity, and the prevalence of morbidity and mortality from cardiovascular disease have all been found to be positively correlated.

Comparably, being extremely obese can place too much strain on the heart, causing it to pump blood too quickly, which can result in cardiac hypertrophy, dilatation, and abnormal heart rhythms.

Ayurveda Perspective

Sthaulya (Overweight & Obesity) is described in *Ashtaunindit Adhyay* of *Charak Samhita* in *Sutrasthana*. According to *Acharya Charak Sthaulya* symptoms are *Ayusho-rhas* (Reduced life span), *Javoparodh* (Hampered movements), *Krucchvyavayta* (Difficulty in sexual intercourse), Daurbalya (Debility), *Daurgandhya (*Bad Body Odour), *Swedan* (Excessive Sweating), *Kshudhatimatra* (Excessive Hunger), *Pipasa* (Excessive thirst) Etc.

Etiological factors as per Charak Samhita

Ati Sampooranat – Food consumption in excess quantity.
Ati Guru Upayogat – Excessive intake of food which is heavy to digest.
Ati Madhur Upayogat – Excessive intake of sweet food.
Ati Sheet Upayogat – Intake of cold or sheet veerya dravyain excess quantity.
Ati Snigdha Upayogat –Intake of Excess Unctuous food.
Avyayamat – Lack of exercise.
Avyavayat – Lack of sexual activity.
Divaswapnat – Sleeping during day time.
Harsha-nityayvat – Always being happy.
Achintanat – Free from tensions and worries.

Beejaswabhavat – Hereditary.

Sushrut has also discussed *Sthaulya* in the chapter of *Sutrashtan.*

Shaddathukalakshayvruddiyam.

Madhavnidan referred to *Sthaulya* as "*Medorog*" and provided an explanation of *Sthaulya* in Chapter *Medorognidanam.*

It is possible to see the ancient terms *Sthoulya* and *Medoroga*, which are found in *Ayurvedic* literature's textual references, as synonymous terms with contemporary terms like obesity, hypercholesterolemia, and hyperlipidemia, among others.

Similar to this, the description of *Hridroga* has a limited reference to problems connected to the heart, but the terms used to describe the cardiac symptoms of systemic ailents—*Hritshoola, Hritpeeda, Hridgraha, Hridayaashuddi, Hridishoonyata,* etc.—are different.

However, it is not possible to directly collect the references establishing the association between *Sthoulya* or *Medoroga* and *Hridaya Sambandhi Vikaras* as a causative or risk factor from the classics. However, the terms defined in the *Madhava Nidana t*ext's *Medoroga Prakarana* and the *Charaka Samhita's Ashtounindhita Adhyaya*—namely, *Ayukshaya, Ashaktaha-sarvakarmasu, Alpaprana, Nashayatyashu-Jeevitham, Kshudra-Shwasa, Pushyanti Anye Na Dhatavaha,* etc.—will obliquely hint at potential cardiac manifestations that only Anumana could comprehend (inference).

Ref. Verses

1. प्रयोजनं चास्य स्वस्थस्य स्वास्थ्यरक्षणमातुरस्य विकारप्रशमनं च । च. सु. 30/26

2. रसासृङ्घांसमेदोऽस्थिमज्जशुक्राणि धातवः। वा सु. 1/13

3. तदतिस्थौल्यमतिसम्पूरणाद्गुरुमधुरशीतस्निग्धोपयोगादव्यायामाद व्यवायाद्दिवास्वप्नाद्धर्षनित्य त्वाद-चिन्तनाद्बीज स्वभावाच्चोपजायते । च.सु. 21/4

4. रसनिमित्तमेव स्थौल्य कार्य च । सु. सु. 15/37)

5. मेदोमांसातिवृद्धत्वाच्चलस्फिगुदरस्तनः । अयथोपचयोत्साहो नरोऽतिस्थूल उच्यते ।। मा.नि. 34/9

6. अव्यायामाद्दिवास्वप्नान्मेद्यानां चातिभक्षणात्। मेदोवाहीनि दुष्यन्ति वारुण्याश्चातिसेवनात् ।। च.वि.5/16

7. अतिस्थूलस्य तावदायुषो हासो जवोपरोधः कृच्छ्रव्यवायता दौर्बल्यं दौर्गन्ध्यं स्वेदाबाधः क्षुदतिमात्रं पिपासातियोगश्चेति भवन्त्यष्टौ दोषाः । च.सु. 21/4

Comparative Study of the Modern and Ayurvedic Understandings of Obesity (Medoroga/Sthoulya) as a Cardio-Vascular Disease Risk Factor (Hridroga)

Margatvat, Medasavrita

Atherosclerosis and hyperlipidemia, which can result in the development of CAD, are indicated by the *Meda,* or fat, obstructing the *margas,* or various *srotas,* in the body, or *Rasa-Raktadi Srotas.*

***Pushyanti Anye Na Dhaatavaha* (Under Nourishment of other Dhatus)**

The consumption of *meda vriddhikara aharas* and *viharas* causes an abnormal increase in *meda* (fat), which in turn causes *avarodha* in all *margas* or *Srotas*, resulting in a deficient supply of nutrients and requirements to the other *dhatus*, ultimately leading to their qualitative and quantitative depletion. Simultaneously, there is an enormous build-up of only *Meda,* stealing everything away.

As a result, the heart experiences a functional overload as it attempts to meet the needs of other tissues. Numerous cardiac symptoms, including hypertrophy, heart dilatation, and hypertension, may result from this series of events.

- The Hridaya and its *Dasha Dhamani's*14 are the *Moola Sthana's* for *Rasavaha Srotas* and *Rasa*, which in turn is involved in *Preenana Karma*. Only in the regular operation of *Hridaya* and *Rasavaha Srotas* are the nutritional needs of other dhatus satisfied. A significant barrier to this process and cause of nutritional imbalance is the Medas.

***Medastu Cheeyate* (the accumulation of fat)**

This signifies the approaching occurrence of atherosclerosis and plaques in the blood vessels, which serve as risk factors for cardiovascular diseases. The cause of IHD (Ischemic Heart Disease) may be atherosclerosis in the coronary arteries.

***Dourbalya* (extreme weakness, loss of strength), *Javoparodha* (breathlessness), and *Ashaktaha Sarva Karmasu* (inability to accomplish any work)**

- A person with *Medoroga* or *Sthoulya* will experience a lack of energy and strength and would be unable to carry out everyday regular activities. This process most likely

indicates exercise intolerance brought on by the functional overload that extra fat over the heart produces. This overload serves to meet the metabolic demands of excess adipose tissue by metabolizing and mobilizing the excess fat. Exercise intolerance, peripheral oedema, pulmonary congestion, aberrant ventricular function, and cardiac hypertrophy and dilatation can all result from the heart's hyperfunction.

***Kshudra Shwasa* (dyspnea, breathing difficulties)**

- Fat accumulation may also impose a functional overload on the heart and lungs, leading to dyspnea during mild activity. This is because an overworked heart may congest the lungs.

***Alpaprana* (Decreased Life expectancy and Hypoxia)**

The meager increase in *Medas* cannot be the source of *Alpapranae*, which are decreased life expectancy and hypoxia, in a person suffering from *Sthoulya.* The aberrant rise in *Medas* that results in hyperlipidemia, hypercholesterolemia, atherosclerosis, and other conditions may subsequently cause cardiac manifestations such as ventricular hypertrophy and dilatation, which can cause hypoxia, impaired nutrition, hypertension, and renal insufficiency, among other conditions. A threat to life and a potential reduction in life expectancy could result from this series of events.

- Since *Hridaya* is a *sthana* (place) for *ojus*, the *sroto-avarodha* in *medoroga* due to *meda* (fat) may result in the depletion of tissues called Dhatus, or *ojokshaya*, which may be the cause of *Javoparodha, Ashaktata, Dourbalya,* and *Alpaprana.*

***Jeevitham's Vikaaraan Dhaarunaan Kritva Naashayatyaashu* (Provolves severe illnesses and expedites mortality)**

This clarifies why the body's manifestation of life-threatening illnesses is caused by fat, or meda.

- The majority of the time, obesity causes hypertension, which can lead to hypertensive heart diseases. Patients with hypertensive heart disease may experience progressive IHD and have advanced coronary atherosclerosis. Losing weight appears to dramatically lower the systolic -blood pressure. Obese people have a higher risk of MI (myocardial infarction) and stroke because to atherosclerosis and hypertension, which poses a threat to life.

- IHD may result from atherosclerosis in the coronary arteries. Chronic IHDMI can lead to arrhythmias, cardiogenic shock, thrombo-embolism, cardiac aneurysm, pericarditis, and other potentially fatal conditions. Myocardial ischaemia may occur in MI.
- Sudden cardiac arrestUnstable angina, acute myocardial infarction, and ischemic mortality are frequently caused by fixed coronary atheromatous plaques.
- Type 2 diabetes, also known as non-insulin dependent diabetes mellitus (NIDDM) or hyperinsulinemia, are brought on by obesity and lead to hypertension, which in turn causes heart disease.
- Hypoventilation syndrome, which results in polycythemia and ultimately right-sided heart failure, is linked to obesity.

DISCUSSION

Obesity rates among adults and children are rising worldwide. It is a rapidly rising problem that is linked to an increased risk of premature death and a variety of negative health outcomes, including CVD and high blood pressure. Obesity is a serious issue that is growing in the United States. Nearly 70% of adults are overweight or obese, compared to 25% four decades ago. If current trends continue, obesity may surpass cigarette smoking as the major cause of avoidable diseases. Moderate-to-severe obesity is a significant risk factor for heart disease, either directly or indirectly through other risk factors such as hypertension, dyslipidemia, and diabetes. Obesity is one of the most major independent CVD risk factors, and several large-scale studies have established that CVD mortality and BMI are positively related. Obesity has numerous negative impacts on cardiovascular function and structure. Obesity increases overall blood volume and cardiac output while also increasing cardiac effort.

CONCLUSION

In conclusion, here are some preventive and therapeutic tips for protecting the heart from fat.

- Avoid overeating.
- Engage in regular physical and mental activity to avoid sedentary lifestyles.
- Avoid calorie-dense diets and those high in carbohydrates and fats (*Medhya, Shleshmala ahara, Madhura anna rasa, Sneha).* These foods can lead to obesity and CVD due to *kapha imbalance.*
- Therapeutic starvation involves drinking just water and supplementing with vitamins, minerals, and protein for obese individuals *(Langhana, Apatarpana, etc).*

- *Panchakarma* therapies (*Ayurvedic* cleansing and detoxification), *Yoga*, and *Naturopathy* can aid.
- Monitoring stress and managing illnesses like depression are crucial.

Hridaya

Hridaya, being a *sthana* for *ojus*, the *sroto-avarodha* generated by *meda* in *medoroga* may create depletion of *dhatus* and hence *ojokshaya*, which may be a causal factor for d*ourbalya, ashaktata, alpaprana, and javoparodha.*

To summarize, following these suggestions on a regular basis can reduce fat in the body, lowering the risk of CVDs and improving life expectancy. This has a global impact.

"Control-Fat-Protect your Heart" should be the thinking for the modern world, as the principles are similar in Ayurveda and modern medical sciences.

Overall, it can be stated that substantial fatty food intake, physical inactivity, long-term day sleep, and psychological discomfort are the key lifestyle-related characteristics that are strongly correlated with the *Sthaulya.*

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