

A Comprehensive Review Article on Sthaulya (Obesity) And Its Treatment Protocols

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Abstract—Obesity is defined as abnormal or excessive fat accumulation that negatively affects health, and it can be compared with "Sthaulya," a condition mentioned in Ayurvedic texts. Acharya Charak includes Sthaulya among the Ashtauninditiya Purusha (eight undesirable conditions). Today, obesity is an epidemic, impacting both males and females as a common lifestyle and metabolic disorder. The prevalence of obesity is notably higher in urban areas of India than in rural populations due to sedentary lifestyles and overeating habits. In Ayurveda, Sthaulya is a condition affecting the "MedovahaSrotas" (channels of fat tissue) and is associated with symptoms like reduced lifespan (Ayushohrasa), diminished agility (Javoparodha), difficulty in physical activity (KricchaVyavaya), weakness (Daurbalya), and unpleasant body odor (Daurgandhya). It is included in the Ashtauninditiya Purusha, which is characterized by general lassitude, daytime hypersomnolence, a protuberant abdomen, menstrual disturbances, and sterility in obese females. These symptoms correlate closely with modern descriptions of obesity and its associated health issues.

I. INTRODUCTION

Obesity is blessing of modern age of machines and materialism. It is physiological, psychological, and social disorder, which is most disfavoured by modern society for social as well as medical reasons. The present-day society expects peak physical and mental performance from each of its member and obese person is unable to find himself physically and mentally fit for it. It occurs because of lack of physical activities with increased intake of daily diet results into the clinical entity, which can be called as obesity. According to the World Health Report, obesity is one disease among the top 10 selected risks to the health. Total health care expenditure on obesity patients is 2-8%. According to the report there are more than 1 billion adults worldwide were overweight, and at least

300 million who are clinically obese "The World Health Report-2002" represents one of the largest projects ever undertaken by W.H.O. in collaboration with experts worldwide.

Ayurveda, the science of life, convince and describes the basic and applied aspects of life process, health, disease, and its management in terms of its own principles and approaches.

Principles of Ayurveda have significant value even in the life of modern man. The bb interwoven. But nowadays one is prone to do all those things, which are harmful to his/her constitution, thereby increasing the incidence of one's susceptibility to diseases. In such disease conditions Ayurvedic principles are effective in preventive and curative purpose. In Ayurveda Sthaulya has been described since very early days in various samhitas, Sangrahagranta has, Nighantu, etc. as Charaka has described Sthaulya one of the eight most unwanted diseases (Ch. Su. 21). In pathogenesis of Sthaulya, kapha (KledakaKapha), Vata (Samana&Vyana Vayu), Meda and Dhatwagni Mandyata are main responsible factors. So that type of therapy can be selected, which influence all these factors.

It is one of the santarpanothavikaras [CH.SU.23] where a physician needs to apply the principle of vishesha, which can restore the unhealthy increase of components to the previous healthy form. Apart from this, in Ayurveda, the management of Sthaulya has been described through various aspects. Faulty dietary habits and decreased awareness regarding exercise is the main cause of the disease. Most of the people from the community are suffering from this disease as well as with its complications. Previously it was said that Sthaulya is a disease of affluent society but nowadays equations have changed and Sthaulya can be seen in lower as well as middle class.

A healthy body is the only one media to achieve the ultimate goal among the Chaturvidhapurushartha. Acharya Sushruta also said that Madhyama Sharira is the best, comparatively AtiKrisha is considered better than Atisthula as later one is more prone to diseases. (Su. Su. 15/42). Acharya Charaka has thrown light on the eight varieties of impediments, which are designated as Nindita Purusha, AtiSthaulya comprises one of them.

II. AYURVEDIC REVIEW

CONCEPT OF MEDA DHATU;

Meda is an important dhatu among Saptadhatu, which also plays a major role in the pathogenesis of Sthaulya. In Shabdakalpadrum, it is mentioned that Medais the fourth dhatu, which performs the function of supporting the body, mind and life. The Snehamsha of Shuddhamamsa is called Vasa. The vasa isupadhatu which is formed after the Dhatwagnipaka of Mamsa dhatu. Which clearly states that Vasa is a different entity than Meda. According to Gananth Sen, the vasa are ghee like fatty substance situated underneath the skin. And as per C. Dwarkanath, these can be included under connective tissues.

Moola of Medovaha Srotas

Each and every srotas has two parts, one is from which the Srotas is originated i.e., the Moola and another is through which nutritive material travel to their respective places in the body. According to Acharyas Moola or root of Medovaha Srotas is as follows;

Charaka; Vrikka and Vapavahana.

Sushruta; vrikka and kati

Vagbhat; Vrikka and Mamsa.

The three Acharyas have considered unanimously Vrikka as one of the moola of Medovaha Srotas but

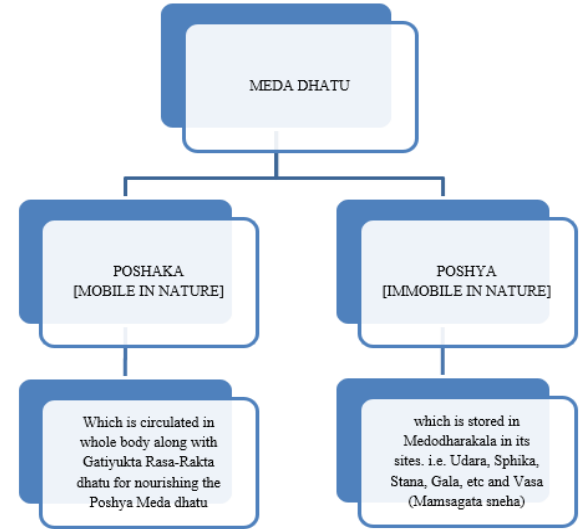
NIDAN;

AHARATMAK NIDAN;

AHARATMAKA NIDANA	CH.	SU.	A. S	A.H
ATISAMPURAN [over eating]	+	-	+	-
SANTARPANA	+	-	+	+
ADHYASHANA	-	+	-	-
GURUAHARSEVAN	+	-	-	-
MADHURA AHAR SEVAN	+	-	+	+
SHEETAHARSEVAN	+	-	-	-
SNIGDHA AHAR SEVAN	+	-	+	+

they differ in the second moola as they mentioned Vapavahana, Kati and Mamsa. As a surgeon, Sushruta as well as Vagbhata have given more anatomical preference than the physiological point of view by considering Kati and mamsa as "Moola" of the Medovaha Srotas while Charaka's consideration was a physiological one.

Sthanaand Swarupa of Medadhatu;



Regarding the sthana of Meda dhatu, Bhavamishra in Bhavaprakasha states that-

मेदस्तु सर्वभूतानामुदरे हि प्यवस्थितम् । अतः एबोदरे वृद्धिः प्रायो मेदस्त्विनो भवेत् । भा. प्र. ३१/४

Medo dhatu is situated in the abdomen of all the animals and this is the reason that in Medorogi, size of the abdomen increases as compared to other parts of the body.

SWARUPA; medodhatu isa Dravadhatu with dominance of Sneha and having mainly Guru-Snigdha guna and Prithvi-Jala-Teja Mahabhuta dominance (Ch. Chi. 15/29-32).

SLESHMALA AHAR SEVAN	+	+	-	-
NAVANNASEVAN	+	-	-	-
NAVA MADHYA SEVAN	+	-	-	-
GRAMYA RASA SEVAN	+	-	-	-
MAMSASEVAN	+	-	+	+
PAYAVIKARSEVAN	+	-	+	+
DADHISEVAN	+	-	-	-
SARPISEVAN	+	-	-	+
IKSHUVIKARSEVAN	+	-	-	+
GUDAVIKARSEVAN	+	-	-	-
SHALISEVAN	+	-	-	-
MASHASEVAN	+	-	-	-
GODHUMSEVAN	+	-	-	-
RASAYANASEVAN	+	-	-	-
VRISHYASEVAN	+	-	-	-
BHOJANOTTAR JALPAN	-	-	+	-

VIHARATMAK NIDAN;

VIHARATMAKNIDAN	CH.	SU.	A. S	A.H
Avyayama (Lack of physical exercise)	+	+	+	-
Avyavaya (lack of sexual life)	+	-	+	-
Diwaswapan (day sleeping)	+	+	+	-
Asana sukha (luxurious sitting)	+	-	+	+
Atiswapana (excessive sleeping)	+	-	+	+
Gandhamalyanusevan (using perfume sand garlands)	+	-	-	-
Bhojanottarnidra (bathing after meal)	+	-	-	-

MANSIK NIDANA;

Mansiknidana	CH.	SU.	A.S.	A.H
Harshanityatva (uninterrupted cheerfulness)	+	-	+	+
Achintana	+	-	+	+
Mansonivritti (relaxation from tension)	+	-	+	+
Priyadarshana (observation of beloved things)	+	-	-	-
Saukhyena	-	-	-	+

SAMAPRAPTI;

Acharya Charaka, provides an insightful explanation of the leading to obesity (Sthulata) in his classical Ayurvedic texts. According to Charaka, the root cause of obesity involves the dynamics of Vata (one of the three fundamental bodily humors or doshas), Meda (fat tissue), and Agni (digestive fire). Here's breakdown of the concept: Obstruction of Srotas (Channels) by Meda (Fat Tissue): Meda obstructs the bodily channels (srotas), which are responsible for the proper transportation of nutrients and waste. Vata's Role: Due to the obstruction by Meda, Vata primarily

moves into the stomach (Aamashaya), where it plays a role in the digestive

process. Augmentation of Agni (Digestive Fire): The presence of Vata in the stomach enhances the digestive fire (Agni), leading to more efficient and rapid digestion of food. Increased Appetite: As a result of the heightened Agni, the person experiences a tremendous craving for food, often leading to overeating. Excessive Growth of Meda Dhatu: Overeating contributes to the excessive formation and accumulation of Meda Dhatu (fat tissue), which in turn exacerbates the condition of obesity. In summary,

Charaka attributes obesity to a cycle of overeating and rapid digestion driven by an imbalance involving Vata and Meda, leading to an excess of fat tissue and further complicating the bodily processes. This ancient understanding highlights the interconnectedness of various bodily functions and the importance of maintaining balance to prevent and manage obesity.

According to Acharya Sushruta, "Aama Rasa" is a concept that refers to improperly digested food which produces toxins within the body. This condition arises due to several factors, such as Kapha Vardhaka Ahara: Foods that increase the Kapha dosha, such as heavy, oily, and sweet foods. Adhyasan: Overeating or consuming meals before the previous meal is digested. Divaswapna: Sleeping during the day. When these habits are prevalent, the body produces Aama Rasa. This substance, characterized by its Madhur Bhava (sweet quality), circulates within the body. The Snigdhanasha (unctuous or oily part) of this Aama Rasa leads to an increase in Medas (fat tissue), resulting in Medo Vriddhi (increase in fat), which ultimately causes excessive tubbiness or obesity. This concept highlights the importance of balanced diet, proper eating habits, and suitable lifestyle choices to maintain the harmony of the doshas and prevent the accumulation of toxins, which can lead to various health issues including obesity.

Rupa;

1. Ayushohrasa (Diminution of life span)
2. Javoparodha (Lack of enthusiasm)
3. KricchaVyavaya (Difficulty in sexual act)
4. Daurbalya (General debility)
5. Daurgandhya (Foul smelling of body)
6. Swedabadha (Distressful sweating)
7. Kshudhatimatra (Excessive hunger)
8. Pipasatiyoga (Excessive thirst)

Upadrava (Complications)

Chronic consistence of Obesity leads to the deformity of several systems, and organs thus ultimately leading to death. The following complications are described in Ayurveda;

1. Amaroga
2. Apachi
3. Arsha
4. Atisara
5. Bhagandara

6. Jwara
7. Kamla
8. 8.Kasa
9. Kustha
10. Mutra Kriccha
11. Prameha
12. Pramehapidika
13. Shlipada
14. Sanyasa
15. Udarroga
16. Urusthambha.

III. TREATMENT OF STHAULYA (OBESITY) AS DESCRIBED IN AYURVEDA;

According to Acharya Charaka, the treatment of diseases involves maintaining the equilibrium of Dhatus (body tissues). Charaka emphasizes that Chikitsa (treatment) not only aims to eliminate the causative factors of the disease but also to restore the balance of Doshas (bodily humors. First Line of treatment For Sthaulya (obesity), the initial step is to avoid factors

responsible for its causation. This includes avoiding foods and habits that possess Snigdha Guna (unctuous quality). Vagbhatta recommends Nitya Langhana (daily fasting) and Langhana therapy even during Shishir Ritu (winter season). Langhana therapy, a core treatment for Sthaulya, is divided into two types: Samsodhana and Shamana.

Samsodhana (Purification Therapy) This therapy is prescribed for individuals with excess Dosha and strong physical constitution. It includes treatments like; Vamana (therapeutic emesis), Virechana (therapeutic purgation) Niruha (decoction enemas) Raktamokshana (bloodletting) Sirovirechana (nasal cleansing).

Shamana (Palliative Therapy); Shamana therapy helps in managing Doshas without expelling them from the body, maintaining homeostasis. It includes; Pachana (digestive therapy) Dipana (appetizing therapy) Among the Shat Upakramas (six types of therapies), Langhana and Rukshana (drying therapy) are particularly effective.

Dietetic and Physical Management; Diet Therapy; Energy; for Sedentary workers: 20 kcal/kg of body

weight is preferable. For Moderately active workers: 25 kcal/kg of body weight energy is recommended.

Protein Recommended: 0.8 – 1 gm/kg for tissue repair and specific dynamic action. Carbohydrates Foods like potatoes, rice, and sugar should be avoided. Fruits like bananas should also be limited.

Fat; Low-fat diets are recommended. Avoid nuts and oil seeds rich in fat. Skimmed milk is preferable.

Vitamins; Supplementation of fat-soluble vitamins A and D is necessary.

Fluid; Drinking a glass of water before meals can help reduce food intake.

High Fiber; Include high-fiber, low-calorie foods like green leafy vegetables, salads, whole grains, and pulses.

Physical Exercise; Moderate Exercise: Essential for weight loss and maintenance. Aerobic exercises like walking are particularly beneficial as they increase daily energy expenditure and help in long-term weight management.

In summary, the Ayurvedic approach to treating obesity (Sthaulya) emphasizes a combination of dietary management, physical activity, and specific therapies like Langhana (fasting and purification) to restore the balance of Doshas and achieve holistic health.

IV. DISCUSSION:

Obesity is the abnormal growth of fatty tissues of the body, negligence of which may lead to the hazardous complications. Ayurveda has categorized this condition under Medoroga i.e., Sthaulya. The core part which is affected is adipose tissue. Medodhatu, which is one among Sapta Dhatus, a principal factor involved in the pathogenesis of Sthaulya, is having characteristic similarities with adipose tissue. Context of Poshaka Medo dhatu (Mobile in nature), mentioned in Ayurveda, which circulates with Rasa, and Rakta dhatu can be correlated with cholesterol and lipids, which are present in the blood circulation; and PoshyaMedo dhatu (Immobile in nature), which is stored in Medodhara Kala, can be correlated with

adipose tissues or fat. The circulating triglycerides, cholesterol and lipids should be treated, as Rasa Raktagata Sneha only the fat deposited in Adipocytes should be accepted as Medadhatu. Vasa have been mentioned as upadhatu of Mamsa, which is again muscle fat. As per Dr. C. Dwarkanath, the channels through which nutrition to the adipose tissue is transported are to be termed as the MedovahaSrotas. Dr. Ghanekar B.G. considered the Medovahasrotases as the capillaries of the perinephric tissue and omentum. Acharya Charaka says that Snehadravya is having two origins namely Sthawara (Inanimate) and Jangama (Animate) (Ch.Su.13/9-11). Ayurveda considers that Jangama Sneha dravya is heavy to digest as compared to Sthawara Sneha. Studies show that unsaturated fats are easier to digest than saturated one. So, we can say that a person with comparatively weak agni indulge himself in excessive eating of nonvegetarian diet which is rich in saturated fatty acids, the undigested part leads to the formation of Ama rasa which is one of the prime causative factors of Sthaulya in Ayurveda. Whenever Rasa, Rakta Mamsagata Sneha starts to increase due to excessive eating and less calorie consumption, overload on Dhatwagni starts to build-up. Person shows the symptoms of Rasavridhhi and Kaphavridhhi.e. heaviness of the body, laziness, drowsiness, increased sleep etc. Later on, actual Meda dhatu gets pathological change and present with various physical signs obesity. In later stage, produces difficulty in performing all his daily activities. Further improper nutrition to Asthi, Majja and Shukra dhatu may also occur. In Sthaulya it is told that the Medo Dhatu is nourished due to various kinds of dietary habits and activities. It is also told that there is unequal proportion of Dhatus. But according to the Dhatu Poshana Nyaya whenever there is vridhhi of a Dhatu the succeeding Dhatu also undergoes vridhhi. So according to this there cannot be increase or decrease of individual Dhatu. But Acharyas also say that the Dhatu are nourished by their respective Poshaka rasa simultaneously also. So, there is formation of other Dhatu, but as there is availability of more of medodhatuposhaka rasa due to the indulgence in the Guru, Madhura, Snigdha etc. diet and activity there is a disproportionate increase of Medodhatu. It has been found that rapid eating might influence obesity because eating faster permits, a greater intake of food before post ingestive satiety occurs. Eating with a

group may cause people to linger over their food, eating more than they would alone. Observations show that in rodents and humans, mutations that affect the leptin-regulated melanocortin circuit give rise to massive obesity. In many obese individuals, blood leptin levels are high, suggesting that leptin resistance rather than leptin deficiency may be more prevalent in humans. Another survival mechanism that presents a problem is the tendency to store fat most efficiently when food is eaten in large meals. Medas undergoing vriddhi causes all the premonitory symptoms of Prameha, Sthaulya and its complication and other symptoms of vitiation of Kapha, Rakta and Mamsa. The reason for this phenomenon is attributed to Sthanantaragatatwa of Dosha (Ch. Su. 18/45), where vitiated doshas move further to affect other dhatus.

It has been mentioned that Vayu along with doshas demarcates Srotas according to purpose. Taking the unctuous portion of the fat it forms blood vessels and ligaments by the process of Mridu or kharapaka respectively. But as seen earlier, if Meda itself is vitiated due to various factors, produces defects in the vessels. This condition can be correlated with the condition of Arteriosclerosis.

The Pramanapariksha and Samhananapariksha of Ayurveda can be correlated with objective criteria of diagnosis like measurement of Height, Weight, various girth measurements and skin-fold thickness. Though both obese and lean are mentioned as dreadful, Sthaulya is considered as still worst condition as it is very difficult to treat. Reason for this is its Virodhi upakrama. In this condition if Langhana is administered. Meda will get pacify but Vata and Agni will get aggravate, and on the other hand if Brimhana is given, Vata and Agni will get corrected but Meda will increase.

In Sthaulya there is Teekshnagni and increase in Koshtagata Vata. When the drugs and food items of Guru and Apatarpana nature are given, they subside the Koshtagni and Vata and at the same time do Apatarpana.

As Sthaulya is a Santarpanajanyavikara treatment should be oriented to reduce the excessive Medodhatu. So, the medicinal drugs or the activities which are having opposite qualities to Meda should be incorporated in this condition. So, to achieve this purpose all treatment modalities can be included in 10 types of Langhana.

V. CONCLUSION

Acharya Charaka has categorized Sthaulya (Obesity) as a condition arising from Santarpanottha Vikara, which is an imbalance caused by overnutrition. The recommended treatment for this condition is Apatarpan (Reducing Therapy). Ayurveda offers a comprehensive understanding of Medo Roga (Sthaulya or Obesity), including its etiopathology, pathogenesis, risk factors, complications, and management strategies. Preventive measures (Nidan Parivarjan) are crucial in addressing this disease. Educating patients about and encouraging adherence to lifestyle modifications as prescribed by Ayurveda are essential for effective management and prevention of obesity.

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