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Concept of *Sthaulya* (obesity) in Ayurvedic parlance

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ABSTRACT

Obesity contributes too much morbidity in the patients because it has been named the mother of Diabetes; Hypertension; Cerebro-vascular disease, Joint-disorders, Hyperlipidaemias and other problems. *Sthaulya Roga* strikingly resembles with disease entity termed as obesity in modern system of medicine. The basic principles of treatment of *SthaulyaRoga* (Obesity) as described in Ayurvedic classics and modern text's of medicine are *Nidana Parivarjana* and *Apatarpaṇa Chikitsa* in the form of consumption of low caloric diet and increase in exercise. Diet and modified life styles are also advised to the patients of *Sthaulya Roga* for correction of their body weight and Lipid profile. Here, an attempt has been made to correlate the disease entity *Sthaulya* as mentioned in Ayurvedic classics with Obesity and their possible modes of management.

Keywords: Obesity, *Sthaulya*, Ayurveda.

INTRODUCTION

In Ayurveda, many types of the diseases are described and amongst them *Astaninditya Purushais* of prime importance because of its near resemble to metabolic disorders. [1] Now a days due to the change in the life style of people, they have no time to maintain their health and to follow *Dincharya* and *Ritucharya*. The persons are involved in indulgence of *ViruddhaAhara* and fast food along with mental stress etc. Regular intake of this type of high calorie diet is major responsible factor for making a person obese. [2] These factors made to the development of obesity, which is a burning problem for medical science. Obesity has reached epidemic proportions in India in the 21st

century, with morbid obesity affecting 5% of the country's population [3]. India is following a trend of other developing countries that are steadily becoming more obese. Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. This, combined with rising middle class incomes, is increasing the average caloric intake per individual among the middle class and above income households.

To prevent these hazards there is need of time to return with our old roots which are very much healthier. Ayurveda has a unique concept about preventing these hazards with the theories of *Nidana Parivarjana* and *Pathya-Apathya*.

Therefore, the present review is aimed at providing the correlation between *Sthaulya* and obesity and its possible mechanism as well as modes of treatment.

MATERIAL AND METHOD

Available literature on *Sthaulya* has been compiled from Ayurvedic classical texts viz. *Charaka Samhita*, *Sushruta Samhita*, *Astanga Hridaya* etc. as well as their commentaries. Available contemporary literature along with research articles have also been used to prepare the review article.

OBSERVATIONS

Ayurveda, the immortal science of the life, represents the totality of life and gives the total knowledge required to maintain the holistic balance of the functioning of the mind and body. In the modern era, the diseases like Diabetes mellitus, Hypertension, Angina pectoris, Spondylitis, Osteoarthritis and Myocardial infarction etc; disorders are caused by obesity. So obesity is the most common nutritional disorder in affluent society.

Acharya Charaka quoted *Sthaulya* under the eight types of impediments which are designated as *Nindita Purusha*. The *Ati-Sthaulya* comprises one of them [4] *Acharya Charaka* has also included this problem in *Santarpanjanya Vyadhi*⁵ He mentioned eight *Doshas* of *Sthula Purusha - Ayurhrasa*, *Javaparodha*, *Alpa-Vyavayita*, *Daurbalya*, *Daurgandha*, *Svedabadha*, *Ati-Trishna*, *Ati-Kshudha*.

In the case of obese person, other *Dhatus* doesn't grow to their extent. One of them is *Sthaulya* intake of high calorie diet, devoid of physical work, excessive sleep and lack of exercise can be taken as major cause of obesity.

According to *Ayurveda*, each and every disease occurs due to *Agnimandya*⁶ which may be "*Jathragni*, *Dhatvagni* and *Panchabhutagni*"-*Mandhya*. So, obesity is, according to *Ayurveda* science, due to *Dhatvagnimandya*. Derangement of *Agni* or digestive power leads to production of *Ama*, which disturbs cell *Agni* of fatty tissues and blocks the proper formation of further tissues. Improperly formed fatty tissue accumulates in the body causing obesity. Accumulation of fats due to

Dhatvagnimandya may be causative factor of *Vata Vaigunya* which exerts increased effect and function of movement, which therefore increases appetite, due to *ChalaGuna* of *Vata*. Therefore, patients take more and more food which converts into improper fatty tissue.

The concept of *Sthaulya* in *Ayurveda* describes in details as follows- *Acharya Charaka* was the first person to give the appropriate and precise definition of *Sthaulya*. [7]

Etiology of Obesity as per Ayurveda [8]

Acharya Charaka has mentioned the *Nidana* of *Sthaulya* analytically in most of them is exogenous types of causes. Endogenous types of causes have been mentioned by *Acharya Sushruta* and *Vagbhata*. *Acharya Vagbhata* also mentioned *Ama* as causative factor. Only *Acharya Charaka* has defined *Beejadoshas* as one of the cause of *Sthaulya*. In context with *Sthaulya*, exogenous causes are *Meda* stimulating diet and regimens where as *Dosha*, *Dhatu*, *Mala* and *Srotas* etc. come under endogenous causes.

All the *Nidana* (causative factors) mentioned in *Ayurvedic* classics can be classified into 4 groups – *Aharatmaknidana*, *Viharatmaka Nidana*, *Manas Nidana* and *AnyaNidana*.

Aharatmaka Nidana

Anupa Rasa Sevan, *Atisampurana* (over eating), *Guru AharaSevana* (excessive consumption of food), *MamsaSevana* (Excessive use of meat), *Ikshu Vicar Sevana* (sugarcane preparations), *Payas Vikara Sevana* (milk and its preparations), *Shleshmala AharaSevana* (*Kapha* increasing food)

Viharatmaka Nidana

Avayama (Lack of physical exercise), *SukhaShayya* (Luxurious sitting), *Bhojanottaridra* (sleep after meal), *Alpavyavaya* (Reduced sex life), *Gandhamalyanusevana* (use of perfumes and garlands).

Manasika Nidana

Achintana, *Harshanitya*, *Manasonivritti* have been considered as the *Manasika Nidanas* of *Sthaulya* in *Ayurveda*.

Others: Beejaswabhavaja

Acharya Charaka has specifically mentioned *Beejadoshas* as the *Nidana* for *Sthaulya* and

Chakrapani comments over it as “Beejaswabhadri AtiSthula Mata Pitru Janyatvat”

Three main causes have been described in modern literature viz.

1. Dietetic
2. Genetic
3. Hormonal.

The physical effects of obesity are even more disturbing. It is producing heart diseases which have been recognized as the leading killer disease of 21st century. Obesity also lays down of the foundation variety of other disorders ranging from diabetes to impotency. All these disorders are indication of failing systems. It is statistically proved that longevity is greatly reduced in an obese living in the present day.

At an individual level, a combination of excessive caloric intake and a lack of physical activity are thought to explain most cases of obesity [9]. In contrast, increasing rates of obesity at a societal level are felt to be due to an easily accessible and palatable diet, increased reliance on cars, and mechanized manufacturing. A limited number of cases are due primarily to genetics, medical reasons, or psychiatric illness.

Apart from several rare genetic syndromes (listed above) other Medical illnesses that increase obesity risk include: hypothyroidism, Cushing's syndrome, growth hormone deficiency, and the eating disorders: binge eating disorder and night eating syndrome. Certain medications may cause weight gain or changes in body composition; these include insulin, sulfonylureas, thiazolidinediones, atypical antipsychotics, antidepressants, steroids, certain anticonvulsants (phenytoin and valproate), pizotifen and some forms of hormonal contraception.¹⁰

Classification

For the purpose of Diagnosis, Prognosis and easy management disease should be classified as per severity as well as chronicity. Hence, classification of *Sthaulya* is essential. But there is no such clear classification was found in ancient classics. *AstangaSangraha*, *AstangaHridaya* and *Sharangadhara Samhita* have thrown little light regarding classification of *Sthaulya*. As mentioned there are three types of *Sthaulya*. i.e. *Adhika*, *Madhya* and *Hina* have been mentioned for better management while narrating the indication *Langhana Upakrama*.

According to *AcharyaCharaka* [11], *Sushruta* and *Sharangadhara* also accepted the view of *Sushruta*, considering all these references *Sthaulya* may be classified as:-

- *Hina Sthaulya* (Overweight)
- *Madhyama Sthaulya* (Obesity class 1 & 2)
- *Adhika Sthaulya* (Severe or Morbid Obese)

Hina sthaulya (over weight)

- a. BMI 25 to 29.9 kg/m²
- b. Without any complication or secondary disease with less than four undesirable
- c. Effects.
- d. Duration of less than 1 year obese.

Madhya Sthaulya (Obesity Class 1 and 2)

- a. BMI 30-34.9 kg/m² and 35-39.9 kg/m²
- b. With less complication without any secondary disease
- c. With less than and desirable effects
- d. Within duration of 1 to 5 yrs.

Ati-sthaulya (obesity class 3 / severe or morbid)

- a. BMI > 40 kg/m²
- b. With systemic complication and or secondary disease
 - a. With all eight undesirable effects
 - b. With more than 5 years duration.

Treatment

The primary goal of treatment is to improve obesity-related comorbid conditions and reduce the risk of developing future co morbidities. Information obtained from the history, physical examination, and diagnostic tests is used to determine risk and develop a treatment plan. The decision of how aggressively to treat the patient, and which modalities to use, is determined by the patient's risk status, expectations, and available resources. Therapy for obesity always begins with lifestyle management and may include pharmacotherapy or surgery, depending on BMI risk category. Setting an initial weight-loss goal of 10% over 6 months is a realistic target.

Lifestyle management

In *Ayurveda*, various plant based drugs are advocated for the prevention and management of obesity, diabetes and dyslipidemia. In *Ayurveda* metabolic syndrome and its association with diabetes (*Prameha*) can be correlated with obesity

(*Medo-Roga*). Various pharmacologic and non-pharmacologic methods has been prescribed in *Ayurveda* for treatment of Obesity In obesity (*Medo-Roga*), those drugs which have *Rasayana*, *Balya* and *Jivaniya* action, as well as *Pramehaghna* properties like *Silajatu*, *Amalaki*, *Haridra*, *Guduchi*, *Pippali* etc. are useful. *Sushruta* has indicated *Silajatu* (*NaimittikaRasayana*) together with decoction of *Salasaradigana Dravyas* for the treatment of *Madhumeha*, these all Drugs having *Rasayana* and *Jivaniya* properties along with *Pramehaghna* properties such as *Amalaki*, *Haridra*, *Silajatu*, *Guduchi* etc. are given as an adjuvant to known (conventional) hypoglycemic agents effective in Obesity (*Medo-Roga*). Such kinds of drugs help to, reduce insulin requirement, prevent or delay long-term complications, generate sense of well being and maintain healthy life.

Obesity care involves attention to three essential elements of lifestyle: dietary habits, physical activity, and behaviour modification. Because obesity is fundamentally a disease of energy imbalance, all patients must learn how and when energy is consumed (diet), how and when energy is expended (physical activity), and how to incorporate this information into their daily life (behaviour therapy). Lifestyle management has been shown to result in a modest (typically 3–5 kg) weight loss compared to no treatment or usual care.

Diet therapy [12]

The primary focus of diet therapy is to reduce overall calorie consumption. The NHLBI guidelines recommend initiating treatment with a calorie deficit of 500–1000 kcal/d compared to the patient's habitual diet. This reduction is consistent with a goal of losing approximately 1–2 lb per week. This calorie deficit can be accomplished by suggesting substitutions or alternatives to the diet. Examples include choosing smaller portion sizes, eating more fruits and vegetables, consuming more whole-grain cereals, selecting leaner cuts of meat and skimmed dairy products, reducing fried foods and other added fats and oils, and drinking water instead of caloric beverages. It is important that the dietary counselling remains patient-centric and that the goals are practical, realistic, and achievable.

Physical activity therapy [13]

Although exercise alone is only moderately effective for weight loss, the combination of dietary modification and exercise is the most

effective behavioural approach for the treatment of obesity. The most important role of exercise appears to be in the maintenance of the weight loss. Currently, the minimum public health recommendation for physical activity is 30 min of moderate intensity physical activity on most, and preferably all, days of the week. Focusing on simple ways to add physical activity into the normal daily routine through leisure activities, travel, and domestic work should be suggested. Examples include walking, using the stairs, doing home and yard work, and engaging in sport activities. Asking the patient to wear a pedometer to monitor total accumulation of steps as part of the activities of daily living is a useful strategy. Step counts are highly correlated with activity level. Studies have demonstrated that lifestyle activities are as effective as structured exercise programs for improving cardio-respiratory fitness and weight loss.

Behavioural therapy

Cognitive behavioural therapy is used to help change and reinforce new dietary and physical activity behaviours. Strategies include self-monitoring techniques (e.g., journaling, weighing, and measuring food and activity); stress management; stimulus control (e.g., using smaller plates, not eating in front of the television or in the car); social support; problem solving; and cognitive restructuring to help patients develop more positive and realistic thoughts about themselves. When recommending any behavioural lifestyle change, have the patient identify what, when, where, and how the behavioural change will be performed. The patient should keep a record of the anticipated behavioural change so that progress can be reviewed at the next office visit. Because these techniques are time-consuming to implement, they are often provided by ancillary office staff such as a nurse clinician or registered dietician.

DISCUSSION

Excessive adipose tissue deposition in the body is known as Obesity. In *Ayurveda*, there is no term described like Hyperlipidaemia but *Acharaya* widely describe the knowledge about “*Sthaulya Roga* (Obesity) in the context of *Astanindtiya Purusa* as well as in *Prameha*. In *Ayurvedic* classics, in reference to “*SthaulyaRoga*” two types of *Meda* (fat) is described¹⁴viz.

BaddhaMeda

The fat which is not mobile and is stored in the form of fat at various places [fat depots/muscles] in the body is termed as “*BaddhaMeda*”.

AbaddhaMeda

The fat, which is mobile and circulates in the body along with blood in the form of lipids [Cholesterol, Triglycerides, LDL, HDL and VLDL etc.] is termed as “*AbaddhaMeda*”.

Excessive *AbaddhaMeda*s stored as fat [*BaddhaMeda*] in the body in the form of serum triglycerides in adipose tissues, resulting in accumulation of more adipose tissues and increased adiposity in the body which is termed as Obesity.

Sthaulya is a *Dushya* dominant disorder, in pathogenesis of *Sthaulya*, all the three *Doshas* are vitiated especially *KledakaKapha*, *Pachak Pitta*, *Saman Vayu&Vyan Vayu* which are responsible factors for proper digestion and metabolism of food at the level of alimentary tract. [15] Due to excess hunger and thirst, *Annarasa* is formed and specificity of diet i.e. *Guru*, *Madhura*, *Snigdha*; *SheetGuna* dominance *Dhatu Poshakanshis* formed in more quantity. Initially the *Rasagat*, *Raktagat* and *Mamsagat Sneha* also increase the production of *Medadhatu*. But due to *Medodhatwagnimandy* this condition worsens and nourishment of further *Dhatu*s doesn't happen properly. Due to binge eating, *Rasa RaktMamsagat Sneha* starts to increase. Patient shows the symptoms of *Rasavridhhi* and *Kaphavridhhi* e.g. *Angagaurav*, *Alasya*, *Tandra* and *Nidradhikya*. *Medadhatu* gets increase with physical signs like *ChalSphik-Udar-Stana*, *Kshudra Shwas*, *Swedadhikya* etc and finally lands into *Sthaulya*. Whatever diet is taken due to its specific affinity to *Meda Dhatu*, it directly converts to *Medo Dhatu*. This has been clearly mentioned by *Acharya Sushruta* and the commentator *Dalhana* clearly explains that bypassing two *Dhatu*s i.e. *Rakta* and *Mamsa* only *Meda Dhatu* is excessively formed in

the patients of *Sthaulya*. *Acharya Charak* has divided *Nidanas* in 4 categories i.e. *Atisampurana*, *Avyayam*, *Harsanityatva* and *Beejaswabdhava*. If patient is having less number of etiological factors, *Sthaulya* will be less complicated and easily curable. However if these factors get association with *Beeja Dosh*a, patient quickly reaches to *Atisthauya* condition and it becomes incurable or *Yapya*. Hence while assessing *Sadhyasadhya*t, Severity of etiological factors should be considered. So whenever *Rasa – Rakta – Mamsagata Sneha* starts to increase due to excessive eating and less calorie consumption, a pressure on *Dhatwagni* starts to build up. Patient shows the symptoms of *Rasavridhhi* (*RasagataSnehansa*) and *KaphaVridhhi* e.g. *Angagaurava*, *Alasya*, *Tandra* and *Nidradhikya* etc. Later on actual *MedoDhatu* gets clinical increase and this increase of *Meda* reflects with various physical signs like *ChalaSphika – Udara – Stana*, *Ksudra -Swasa*, *Swedadhikya* etc. and in later stages difficulty in performing all his daily activities. Further improper nutrition to *Asthi*, *Majja* and *Shukra Dhatu* may also take place.

CONCLUSION

Obesity is major health problem in today's era. Initially thought to be problem limited to rich nations only, prevalence of obesity is now rapidly increasing in developing countries including India. It has significant effect on overall morbidity as well as mortality; also very huge amount of money is spent every year. Although BMI is still considered as standard marker of obesity, more focus is being paid on distribution of obesity like waist: hip ratio which is mentioned in the definition of *Sthaulya* in *Ayurveda*. In management of obesity diet and life style modification constitute most important measures which also emphasize the importance of *Ayurveda* in highly developed modern scientific era.

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