



Review Article on Sthaulya (Obesity)

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ABSTRACT –

Obesity is typically defined quite simply as excess body weight for height, but this simple definition belies an etiologically complex phenotype primarily associated with excess adiposity, or body fatness, that can manifest metabolically and not just in terms of body size (6). Ayurveda has considered Obesity in Sthaulya and Medoroga. Charak had mentioned Sthaulya in ashtanindiya Purusha and described eight symptoms of Sthaulya Purusha. As, per Ayurveda excessive accumulation of Meda and Mamsa leading to flabbiness of hips, abdomen and breast is Sthaulya. Nidan, Lakshana, updrava and different types of chikitsa has been described in different classical texts. Chikitsa varies for different body types, but basically four general chikitsa siddhanta are used for the management of Sthaulya includes - Nidan parivarjan, Karshana guru aptarpan chikitsa, Sanshodhan chikitsa, Sanshamana chikitsa. It has been seen in various studies and researches that these treatment provide good results and make relief in symptoms of Sthaulya, if they are followed by proper regimen.

Keywords – Sthaulya, Obesity, Nidan, Lakshana, Updrava, Chikitsa.

INTRODUCTION

Obesity is a complex, multifactorial, and largely preventable disease (1), affecting, along with overweight, over a third of the world's population today (2,3). The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended. Globally, there has been:

- an increased intake of energy-dense foods that are high in fat and sugars; and
- an increase in physical inactivity due to the increasingly sedentary nature of many forms of work, changing modes of transportation, and increasing urbanization.(4)

If secular trends continue, by 2030 an estimated 38% of the world's adult population will be overweight and another 20% will be obese (5). Obesity is typically defined quite simply as excess body weight for height,

but this simple definition belies an etiologically complex phenotype primarily associated with excess adiposity, or body fatness, that can manifest metabolically and not just in terms of body size (6). The amount of excess fat in absolute terms, and its distribution in the body - either around the waist and trunk (abdominal, central or android obesity) or peripherally around the body (gynoid obesity) - have important health implications. (7) A central distribution of body fat is associated with a higher risk of

Morbidity and mortality than a more peripheral distribution (8) Obesity greatly increases risk of chronic disease morbidity—namely disability, depression, type 2 diabetes, cardiovascular disease, certain cancers—and mortality.

In Ayurveda, obesity is considered as *Sthaulya* and *Medo roga*. *Sthaulya* is classified in three types – *Hina*, *Madhyam* and *Adhika Sthaulya*. There are many *updravas* created by *Sthaulya* which are described in different Ayurvedic texts. Various types of *chikitsa* is described in different texts to treat *Sthaulya*, mainly these four *chikitsa siddhantas* are used - *Nidan parivarjan*, *Karshana guru aptarpan chikitsa*, *Sanshodhan chikitsa*, *Sanshamana chikitsa*. Obesity can be seen as the first wave of a defined cluster of non-communicable diseases called “New World Syndrome”, creating an enormous socioeconomic and public health of 21st century in both developed and developing countries.(9) Obesity is associated with an increased risk of morbidity and mortality as well as reduced life expectancy and contributes to 2.6 million deaths worldwide every year. (10) Despite certain limitations with its use, there is general agreement with the applicability of BMI measurements for assessing underweight, overweight and obesity in adults. The case for children and adolescents is, however, different because unlike adults, BMI changes significantly with age during these stages of growth. In the late 1970's WHO recommended the use of a growth reference for young children developed by the United States National Centre for Health Statistics .(11)

EPIDEMIOLOGY

There is presently a global epidemic of obesity in all age groups and in both developed and developing countries. In 1995, there were an estimated 200 million obese adults worldwide. As of 2000, the number of obese adults had increased to over 300 million. In developing countries, it is estimated that over 115 million people suffer from obesity-related problems (12). From a large body of evidence, the global epidemic of obesity has resulted mainly from societal factors that promote sedentary lifestyles and the consumption of high-fat, energy-dense diets.(13) Obesity occurs when energy intake is more than energy expenditure over a prolonged period. In the year 2000 in the USA, 15% of deaths were attributable to excess weight, owing to poor diet and physical inactivity (14). Excess weight and diabetes are so tightly linked that the American Diabetes Association recommends physicians test for type 2 diabetes and assess risk of future diabetes in asymptomatic people ≥ 45 years old simply if they are overweight/obese, and regardless of age if they are severely obese (15). Excess body weight is a well-known risk factor for heart disease and ischemic stroke, including their typical antecedents—dyslipidemia and hypertension. Recent studies have consistently shown that benign obesity appears to be a myth (16–18); overweight clearly adds to risk of heart disease and stroke beyond its implications for hypertension, dyslipidemia, and dysglycemia (16). An estimated 6% of all cancers (4% in men, 7% in women) diagnosed in 2007 were attributable to obesity (19).

Sthaulya -

Sthaulya is described as excessive accumulation of *Meda* and *Mamsa* leading to flabbiness of hips, abdomen and breast. (20)

Lakshana of Sthaulya :- (21)

- *Ayuhrasa* (diminution of life span)
- *Javoparodha* (lack of enthusiasm)
- *Krcchravyavaya* (difficulties of sexual act)
- *Dourbalya* (weakness)

- *Dourgandhya* (foul smell)
- *Swedavabadha* (excessive sweating)
- *Kshudita atimatra* (excessive hunger)
- *Pipasa atiyoga* (excessive thirst)
- *Ksudra swasa* (dyspnea)
- *Ayatopacaya* (abdominal girth of the body)

Updrava of Sthaulya mentioned in different Ayurvedic texts – (22)

No.	Updrava	Sushrut Samhita	Asthang Sangrha	Ashtang Hiridya	Yog Ratnakar	Bhav Prakasha	Madanpal Nighantu
1.	Prameha	-	+	+	+	+	-
2.	Pramehapidika						
3.	Jvara	+	+	+	+	+	+
4.	Bhagandara	+	+	+	+	+	+
5.	Vidradhi	+	-	-	-	-	+
6.	Vatavikara	+	-	-	-	-	+
7.	Udar Roga	-	+	+	-	-	-
8.	Urustambha	-	+	-	-	-	-
9.	Svasa	-	+	-	-	-	-
10.	Apachi	-	-	+	+	+	-
11.	Kasa	-	-	+	+	+	-
12.	Sanyasa	-	-	+	-	-	-
13.	Kustha	-	-	+	+	+	-
14.	Visarpa	-	-	-	+	+	-
15.	Atisara	-	-	-	+	+	-
16.	Arsha	-	-	-	+	+	-
17.	Shlipada	-	-	-	+	+	-
18.	Kamala	-	-	-	+	+	-
19.	Mutrakriccha	-	-	+	-	-	-
20.	Ajrna	-	-	+	-	-	-

Classification of Sthaulya – (23)

There are three types of Sthaulya described by Vagbhata i.e Adhika, Madhyama & Hina with chikitsa point of view.

1. Hina Sthaulya – (BMI – 25-30Kg/m²) Overweight

It is mild overweight condition, not having any complication nor any secondary disease, having less than 4 undesirable symptoms and with duration of less than one year.

2. Madhyam Sthaulya – (BMI – 30-40 Kg/m²) Obese

It is moderate condition, not having any complication nor any secondary disease, having less than 8 undesirable symptoms & with duration of 1 to 5 years.

3. Adhika Sthaulya – (BMI >40 Kg/m²) Very obese

It is excessive obesity condition, having complications and secondary disease with all 8 undesirable symptoms & with duration of more than 5 years.

Nidan Of Sthaulya – (24)

1. Excessive intake of food

2. Too much intake of Guru, snigdha, madhur, sheet ahara dravya.
3. Lack of exercise
4. No sexual act
5. Divashayana
6. Harshantya (Excessive pleasure) and Achintana (Jolliness)
7. Hereditary by parents

Samprapti of Sthaulya – (25)

Samprapti Ghatak –

1. Dosha – Tridosha (Kapha pradhan)
2. Dushya - Meda
3. Adhistan – Sarva sharir especially Sphiga, Nitamba, Udara, Stana.
4. Strotas – Medovaha Srotas
5. Stroto dusthi prakara – Sanga, Vimarga gaman
6. Agni stithi – At starting Agnimandya, after it Tikshna agni
7. Vyadhi svabhav - Daruna
8. Sadhya-asadhyta – Kasta Sadhya, Yapya.

Samprapti – (26)

Due to nidana sevan there is excessive increase in Medo dhatu which obstruct the channels of body and due to this other dhatus will not nourished and due to obstruction of channel there is raging of vayu in the body. Prakupit vayu enter in Kostha and aggravate jathraagni which digest the food very quickly then due to this there is excessive hunger which lead to increase the production of ahara rasa. Due to channel obstruction increased ahara rasa only produce Medo dhatu and other dhatus will not produced by ahara rasa. And this will lead to obesity.

MODERN ASPECT OF OBESITY AND OVERWEIGHT

Overweight and obesity are defined as abnormal or excessive fat accumulation that may impair health. Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. It is defined as a person's weight in kilograms divided by the square of his height in meters (kg/m^2). (27)

76721

BODY MASS INDEX - BMI

BMI, formerly called the Quetelet index, is a measure for indicating nutritional status in adults. It is defined as a person's weight in kilograms divided by the square of the person's height in metres (kg/m^2). (28)

For adults over 20 years old, BMI falls into one of the following categories.

Table 1. Nutritional status (29)

BMI	Nutritional status
Below 18.5	Underweight

BMI	Nutritional status
18.5–24.9	Normal weight
25.0–29.9	Pre-obesity
30.0–34.9	Obesity class I
35.0–39.9	Obesity class II
Above 40	Obesity class III

COMPLICATIONS

Obesity may cause the following complications: (30)

1. Metabolic Syndrome
2. Type 2 diabetes
3. High blood cholesterol and high triglyceride levels in the blood
4. Diseases of the heart and blood vessels such as high blood pressure, atherosclerosis, heart attacks and stroke
5. Respiratory problems such as obstructive sleep apnea, asthma, and obesity hypoventilation syndrome
6. Back pain
7. Non-alcoholic fatty liver disease (NAFLD)
8. Osteoarthritis, a chronic inflammation that damages the cartilage and bone in or around the affected joint. It can cause mild or severe pain and usually acts weight-bearing joints in people who are obese. It is a major cause of knee replacement surgery in patients who are obese for a long time.
9. Urinary incontinence, the unintentional leakage of urine. Chronic obesity can weaken pelvic muscles, making it harder to maintain bladder control. While it can happen to both sexes, it usually acts women as they age.
10. Gallbladder disease
11. Emotional health issues such as low self-esteem or depression. This may commonly occur in children.
12. Cancers of the esophagus, pancreas, colon, rectum, kidney, endometrium, ovaries, gallbladder, breast, or liver

SHAPEWISE CLASSIFICATION

Body have different shapes according to the relative proportions of chest, waist and hips. These are the following shapes –

1. **Rectangle (Straight)** – The circumference of chest and hips are about the same and you have little to no waist; when you gain weight, it distributes evenly, although with excess, your stomach may protrude.
2. **Triangle upward (pear or spoon)** – Your hip circumference is greater than your chest, and your waist is not prominent; when you gain weight, it tends to be disproportionately in your hips, rear and thighs.
3. **Inverted triangle (apple)** – Your chest circumference is greater than your hips, and your waist is not prominent; when you gain weight, it tends to be disproportionately in your upper arms, shoulders (back), and chest (not necessarily the breast).
4. **Hourglass** – The circumference of your chest and hips are about the same but you have a pronounced waist; when you gain weight, it is distributed on your shoulders, chest, hips and rear before affecting your waist and stomach. (31)

Chikitsa Sidhanta – (32), (33)

Depending on the body type, the chikitsa varies.(34) As in different person's body there is pradhanta of different dosha like vata, pitta, kapha so treatment is done according to this .But in generally, following chikitsa siddhanta are useful in treatment of Sthaulya –

1. Nidan parivarjan
 2. Karshana guru aptarpan chikitsa
 3. Sanshodhan chikitsa
 4. Sanshamana chikitsa
-
1. Nidana Parivarjan – In nidana parivarjana, the causing factors of Sthaulya are taken carefully like taking balanced diet, doing exercise and other physical activities and doing some changes in lifestyle can be very beneficial in Sthaulya.
 2. Sanshodhan chikitsa – In Sanshodhan chikitsa following chikitsa is given to treat Sthaulya –
Vamana
Virechana
Nirooh basti prayoga
Karshan nasya prayoga
 3. Sanshamana chikitsa – In this chikitsa different aushadhis are used to treat Sthaulya some of them are –
Rasa – Trimurti rasa, Vadvagni rasa, Parad bhasma.
Vati – Arogyavardhini vati, Bhedni vati, Kutki vati.
Churna – Triphala churna, Vacha churna, Trikatu churna, Guduchyadi churna etc.
Kwatha – Mustadi Kwatha, Agnimantha Kwatha, Brihat panchmoola Kwatha, Mahamanjisthadi Kwatha etc.
Asava – Arishta – Loharishta, Vidangasava, Lohasava.
Taila yog – Mahasugandhadi taila, Triphaladya taila.
Loha yog – Viangaadya loha, Triushnaadya loha.
Guggulu yog – Navaka guggulu, Medohar guggulu, Amritadya guggulu, Trayodashang guggulu.
Rasayana – Shilajatu rasayana, Guggulu rasayana, Amlaki rasayana etc.

Depending on the body type, the chikitsa varies.(34)If the person is diagnosed as Vaata type, then purification procedures for Vaata like cleansing enemas. After that mild oil application and fomentation is used. Only minimum oil application is used for treating obesity.

External oil application is carried out with oil containing hot herbs like calamus, ginger and mustard. External fomentation can be done by various methods like whole body fomentation via. steam box. After fomentation oil enemas will be given. Later, usually contains a decoction of Dashmoola, Honey, Salt, some specific herbs and water.(35)

If the person is diagnosed as Kapha type, then external message with powders of agaru, calamus, ginger or mustard will be done.(36) These substances help to remove excess fat deposited under the skin.

DISCUSSION

Obesity is a complex, multifactorial, and largely preventable disease, affecting, along with overweight, over a third of the world's population today. There is presently a global epidemic of obesity in all age groups and in both developed and developing countries. Obesity acts as a foundation of so many chronic diseases like— depression, type 2 diabetes, cardiovascular disease, metabolic syndromes etc. As per Ayurveda, obesity is described as Sthaulya and Medo roga. Sthaulya effects the body enormously, as it creates lots of updravas in body. From Samprapti it is clearly known that nidaan sevan cause increase in Medo dhatu which obstruct the channels of body and due to this other dhatus will not nourished and due to obstruction of channel there is

raging of vayu in the body. Prakupit vayu enter in Kostha and aggravate jathraagni which digest the food very quickly then due to this there is excessive hunger which lead to increase the production of ahara rasa. Due to channel obstruction increased ahara rasa only produce Medo dhatu and other dhatus will not produced by ahara rasa. And this will lead to obesity. Different types of chikitsa is mentioned in different Ayurvedic texts but mainly four basic chikitsa siddhantas are used i.e Nidan parivarjan, Karshana guru aptarpan chikitsa, Sanshodhan chikitsa, Sanshamana chikitsa.

CONCLUSION

Ayurveda, has described Sthaulya, nidaan of Sthaulya, Lakshanas, updravas, pathogenesis and its management. In sanshodhan chikitsa –Vamana, Virechana, Nirooh basti prayoga

Karshan nasya prayoga is mentioned as it works, to eradicate excessive Doshas from body.

In Sanshaman chikitsa various aushadhis are used for the management of Sthaulya like diiferent churna, Kwatha, Vati, Asava – Arishta, etc. And it has been seen by various researches that if these medications taken properly with balanced diet and nidaan parivarjan is done then they give very better results.

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