

A CRITICAL REVIEW ON *STHAULYA* (OBESITY)Dr. Amir Khan\*<sup>1</sup> and Dr. Ajay Kumar Gupta<sup>2</sup><sup>1</sup>P.G. Scholar, Final year, P.G. Dept. of Shalya Tantra Rishikul Campus, Uttarakhand Ayurved University Haridwar.<sup>2</sup>Professor and H.O.D., P.G. Dept. of Shalya Tantra Rishikul Campus, Uttarakhand Ayurved University, Haridwar.

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## ABSTRACT

Obesity has been mentioned as abnormal or excessive fat accumulation that might effect health, which can be compared with *Sthaulya* mentioned in *Ayurvedic* classes. *Sthaulya* has been mentioned by *Acharya Charak* among *Ashtaninditiya Pursha*. Obesity has become epidemic today and it is essential to understand the effect of Obesity sites. Obesity is a common life style / metabolic disorder of males and female both. The prevalence of obesity is higher in urban areas than in rural populations of India, due to the sedentary life style and overeating habit.<sup>[2]</sup> *Sthaulya* is a disease afflicting “*Medovaha Srotas*” in the form of *Ayushohrasa*, *Javoparodha*, *Kriccha Vyavaya*, *Daurbalya*, *Daurgandhya*.<sup>[1]</sup> It is included in *Ashtaninditiya Pursha* which is revealed by symptoms of General lassitude, Day time hypersomnolism, Protuberant abdomen, Menstrual disturbance and sterility in fatty female, etc. These features can be correlated closely to Obesity.<sup>[1]</sup>

## INTRODUCTION

Obesity is a medical condition in which excessive body fat accumulates to that extent that it stimulates adverse effects on health. In *Charak Samhita*, *Ati-Sthulya* is explained under *Asthanindaniya- Purusha*. *Sushruta Samhita* has also mentioned *Sthaulya roga* and its pathogenesis on the basis of *Dhatvaagni Mandya*. *Sthaulya* is considered as a condition of the body that results from vitiated *Meda dhatu*. *Vridha Vagbhata* and *Vagbhata* has elaborated the pathogenesis of *Sthaulya* on the basis of formation of *Ama* and altered *Dhatu parimana*. *Madhava nidana* has elaborated the pathophysiology of the *Roga* on the basis of increased *Meda*. *Yogaratanakar* too adopted the name *Medoroga* to explain *Sthaulya*.<sup>[2]</sup>

## AYURVEDIC REVIEW

*Sthaulya* is mentioned in *Charak Samihita*, *Sushruta Samhita*, *Madhav nidana*, and also in other *Ayurvedic* classics like *Yogaratanakar*, *Sharangdhara Samhita* etc as *Medodosha*.

Formation of *Meda Dhatu*

रक्तमूष्मणा चाभिसन्नुक्तम् |

स्थिरतां प्राप्य मांसंथयात् थवोष्मणा पक्वमेव तत् |

थवतेजोऽम्बुगुणस्थिगोधोद्विक्तं मेदोऽभिजायते || (Ch.Chi.

15/29-30)

The *Ahara Rasa* which is absorbed from *Pakavashaya* reaches in the heart by the conduction of *Samana Vayu*. This *Rasa* is again being thrown into circulation

from the heart to first through large channels and then through smaller and smaller ones by the help of *Vyanavayu*. The *Rasa* ultimately reaches to the *Sthayidhatu*, This contains nutrition for all dhatus. The nutrition thus accepted is acted upon by *Dhatvagni* to convert into *Medo Dhatu*.<sup>[3]</sup>

## Nidana

All causative factors described in *Ayurveda* can be classified into four groups as follows:

1. *Aharatmaka Hetu*
2. *Viharatmaka Hetu*
3. *Manasika Hetu*
4. *Anya Hetu*

*Aharatmaka Hetu*

- *Atisampurnata*
- *Adhyashana*
- *Guru Ahara Sevana*
- *Madhur Ahara Sevana*
- *Sita Ahara Sevana*
- *Snigdha Ahara Sevana*
- *Navanna Sevana*.

*Viharatmaka Hetu*

- *Avyayama*
- *Avyavaya*
- *Divaswapa*
- *Atinidra*
- *Sukh Shaiya Sevana*

**Manasika Hetu**

- Harshaniyatvat
- Achintanat
- Manaso Nivriti.<sup>[4]</sup>

**Samaprapti**

Acharya Charaka and Sushruta have different opinion about Samaprapti of Sthaulya. Charaka has accentuated Ahara as most common pathogenic factor for Medovridhhi in Sthaulya, while Sushruta accepted as Ama Dosha.

**As Per Acharya Charaka**

Due to obstruction of Srotas by Meda, the Vata moving mainly into Aamashya, augments the Agni and absorbs the food. Thus the obese person digests food speedily and craves for food tremendously. Over eating produces excessive growth of Meda Dhatu, this leads to Sthulata.<sup>[5]</sup>

**As Per Acharya Sushruta**

Aama Rasa is produced due to Kapha Vardhaka Ahara, Adhyasan, Divaswapna. The Madhur Bhava Ama Rasa moves within the body. The Snigdhanasha of that Ama Rasa lead to Medo Vriddhi, which produces excessive tubbiness.<sup>[6]</sup>

**Rupa**

1. Ayushohrasa (Diminution of life span)
2. Javoparodha (Lack of enthusiasm)
3. Kriccha Vyavaya (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)<sup>[7]</sup>

**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. Prameha pidika
13. Shlipada
14. Sanyasa
15. Udarroga
16. Urusthambha.<sup>[8]</sup>

**Modern Review**

In 21st century obesity is emerging as an important health problem in world. In all over the world about 1.9 billion adults are overweight. In India 10% of population are affected by morbid obesity i.e. BMI above 40. Obesity is a medical condition in which excess body fat accumulated to an extent that it may have negative effects on health of an individual. Substantial evidence suggest at the energy intake and body weight is regulated by both endocrine and neural component that ultimately influence the energy intake and expenditure This complex regulatory system small imbalance between energy intake and expenditure ultimately have large impact on body weight.<sup>[9]</sup>

**Etiological Factors**

- a. Physiological – Observed temporarily during puberty, pregnancy
- b. Pathological – It is again divided into three viz-
  1. Exogenous – Caused due to overeating & physical inactivity
  2. Endogenous –Due to Endocrine disorders i.e. Cushing's Syndrome, Hypothyroidism, Polycystic ovarian syndrome, Hypoglycaemia, Frohlich's syndrome, etc.
  3. Idiopathic – When every possible causative factors of Obesity has been investigated and find out.<sup>[10]</sup>

**Pathogenesis of Obesity**

There are three main factors in the pathogenesis of Obesity:

- 1) Excessive lipid deposition
  - 2) Diminished lipid mobilization and
  - 3) Diminished lipid utilization.
1. **Excessive lipid deposition** is due to rised food intake. Increased food intake in form of Carbohydrates, Proteins and Fats by metabolic process lastly converts in Fat and get stored at fat depots.
  2. **Diminished lipid mobilization** is due to decrease lipolytic hormones or defective cells or abnormality of autonomous innervation. Thyroxin and Adrenaline stimulate mobilization of unsaturated fatty acids from adipose tissue, this abnormality causes diminished lipid mobilization and excessive lipid deposition, ultimately leading to Obesity.
  3. **Diminished lipid utilization** is due to ageing, defective lipid oxidation, defective thermogenesis or physical inactivity. It is the main pathology in middle age Obesity.<sup>[11]</sup>

**Manifestation of Obesity**

In the Modern medical science, the sign and symptoms of Obesity are-

**Sign of Obesity**

1. Weight gain- more than 20% of normal body weight.
2. Body mass index- >30 kg/m<sup>2</sup> called obese

3. Skin fold thickness - More than 20 mm in a man and 28 mm in a woman.
4. Waist hip ratio –Waist hip ratio >1 in males and >0.8 in females, known as Obese.
5. Waist circumference- >102cm in males and >88 cm in females.

### Symptoms of Obesity

1. General lassitude
2. Day time hypersomnolism
3. Protuberant abdomen
4. Dyspnoea on exertion
5. General lassitude
6. Menstrual disturbance and sterility in fatty female
7. Depression
8. Snoring
9. Sleep apnoea.<sup>[12]</sup>

### Complications

Complications associated with Obesity are as below:

#### 1. Cardiovascular system

- Coronary heart disease
- Myocardial infarction
- High blood pressure

#### 2. Respiratory system

- Asthma
- Bronchitis

#### 3. Gastro intestinal system

- Fatty liver disease
- Cholelithiasis

#### 4. Reproductive system

- Menstrual disorders
- Infertility
- Polycystic ovarian syndrome
- Complication during pregnancy.<sup>[13]</sup>

### Treatment of *Sthaulya* (Obesity) As Described In *Ayurveda*

According to *Acharya Charaka*, such actions, which maintain the equilibrium of *Dhatus*, constitute the treatment of diseases. *Acharya Charaka* has further amplified the scope of the term *Chikitsa*. According to him, the aim of *Chikitsa* is not only at the radical removal of the causative factors of the disease, but also at the restoration of the *Doshika* equilibrium.<sup>[14]</sup> So, the first line of treatment for *Sthaulya* is to avoid those factors which are responsible for the causation of *Sthaulya*. All the factors, having *Snigdha Guna* dominance in general should be avoided. *Nitya Langhana* therapy & *Langhana* even in *Shishir Ritu* is advised for the patients of *Sthaulya* by *Vagbhata*.<sup>[15]</sup> Then types of *Langhana* therapy i.e. *Vamana*, *Virechana* etc. are advised for practice according to *Vyadhibala* & *Dehabala* by *Charaka*. Amongst *Sadavidha Upakramas*, *Langhana* & *Rukshana* therapies are more suitable for the management of *Sthaulya*. *Vagbhata* included all

therapies under two main headings i.e. *Langhana* & *Brimhana*. *Langhana*, the line of treatment for *Sthaulya* has been further divided into *Samsodhana* & *Samshamana*.<sup>[16]</sup>

#### *Samsodhana*

All *Sthula* patients with *Adhika Dosha* & *Adhika Bala* should be treated with *Samsodhana* therapy, including *Vamana*, *Virechana*, *Niruha*, *Raktamoksana* & *Sirovirechana*.

#### *Shamana*

The therapy which neither expels the *Dosha* from body nor disturbs the homeostasis of *Dosha* is called *Shamana* & is of seven types i.e. *Pachana*, *Dipana* etc.. Among the *Shat Upakramas*, *Langhana* & *Rukshana* can be administered in them.<sup>[17]</sup>

### Principals of Dietetic and Physical Management In Obesity

1. Diet therapy
2. Physical exercise

#### 1. Diet therapy

**Energy:** For a sedentary worker, 20kcal/kg of body weight is preferred .while 25 kcal for moderately active worker.

**Protein:** There is about 0.8 – 1 gm /kg is prescribed for tissue repair and for specific dynamic function.

**Carbohydrates:** The Carbohydrate reach foods like potatoes, rice, sugar in empty stomach and fruits like banana should be avoided in meal.

**Fat:** For reduced weight, low fat less, should be given while nuts oil seed rich in fat should be avoided. Skimmed milk should be preferred as diet.

**Vitamins:** There is supplementation of fat-soluble vitamin – A and D is necessary.

**Fluid:** A glass of water before meals helps to cut down food intake.

**High fibre:** The High fibre and low calorie foods like green leafy vegetable, fruits, vegetables salads, whole grain cereals and pulses can be included in the diet.<sup>[18]</sup>

#### Type of Diet

1. High – fiber diets.
2. Low – calorie diet.
3. Very – low calorie diet.
4. Low carbohydrate and high protein diet.

#### 2. Physical exercise

Most obese patients lead sedentary lives. A low calorie diet accompanied by moderate exercise will be effective in causing weight loss. Aerobic exercise directly increases the daily energy expenditure and is particularly

useful for long-term weight maintenance. The simplest and most popular form of stimulating exercise is walking. The muscle consumed energy derived from both fat and glycogen.<sup>[19]</sup>

### Some Yoga-Asana for Obesity

*Chaturanga Dandasana* (Plank Pose)

*Trikonasana* (Triangle Pose)

*Dhanurasana* (Bow Pose)

*Sarvangasana* (Shoulder stand Pose).<sup>[20]</sup>

### DISCUSSION

Obesity has become epidemic today and it is essential to understand the consequences of Obesity. It is one of the disorders of non-communicable disease, which laid down foundation stone of Diabetes Mellitus, Metabolic syndrome, Hypertension and others. In *Ayurveda*, *Sthaulya* and *Medoroga* has been described as Obesity. From *Samprapti* (Pathogenesis) it is clearly seen that not only does *Aharaj* but also *Viharaj*, *Manas* and *Bijdoshaj* factors are associated with the *Jathragni Mandya* which ultimately results into the accumulation of *Medo* and *Mamsa Dhatu*. According to *Acharya Dalhana*, there is a state of *Medodhatvagnimandya*, which leads to excessive formation of improper *Medodhatu* leading to Obesity. *Ayurveda* recommends various treatment modalities like *Shodhan* and *Shaman*. It is clear that reducing overall energy intake is key to losing weight. Increasing physical activity can also be helpful alongside calorie reduction in achieving weight loss and sustaining a healthy body weight, as well as improving overall health. Multinational food and drink corporations, physical activity and sport organizations, NGOs (Non-Governmental Organisation), employers and local NHS (National Health Service) staff all need to work together to help communicate the messages about why we need to look at our individual lifestyles, but also to change the environment so the healthier choice becomes the easier choice. Prevention is the most important key factor for this disease. Patients should be educated to follow the life style changes recommended by *Ayurveda*.

### CONCLUSION

*Acharya Charaka* has mentioned *Sthaulya* (Obesity) under the caption of *Santarpanotha Vikara* and it should be treated with *Apatarpan* (Reducing Therapy). *Ayurveda* describes the aetiopathology of *Medo Roga* (*Sthoulya* or Obesity), pathogenesis, risk factors, complications and its management. Prevention (*Nidan Parivarjan*) is the most important key factor for this disease. Patients should be educated to follow the life style changes recommended by *Ayurveda*.

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