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MANAGING OBESITY THROUGH AYURVEDA

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ABSTRACT

Being obese or overweight brings significant risks at a range of different points throughout life. The health risks for adults are stark. Given the impact on individual health, obese and overweight individuals can place a significant burden on the national health Schemes. Non-communicable diseases currently cause almost two thirds of all deaths worldwide. This article revolves around the details of Obesity described in various texts of Ayurveda. An attempt has been made to understand Obesity through Modern and Ayurvedic perspective and to find out the likely solutions for obesity through Ayurveda. Obesity has been described as *Sthaulya* or *Medoroga* in Ayurvedic texts. It is described under the caption of *Santarpanottha Vikar* (Disease caused by over nourishment). Various Internal and External treatment modalities are described in the treatment of Obesity.

Keywords: Obesity, Over Nourishment, Ayurveda, *Apatarpan* (Reducing Therapy)

INTRODUCTION

Change in diet coupled with increasing inactive lifestyle has sparked off epidemics of obesity in several Asian countries. There has been a significant increase in the consumption of fats and every dense food with a concurrent reduction in physical activity. With the rapid pace of industrialization and economic progress, today more and more jobs are becoming sedentary and dietary patterns are also changing with a decline in cereal intake and increase in the intake of sugar and fats. This all has resulted in increase in incidence

of obesity along with its associated problems. According to survey by Nutrition Foundation of India, 45 % of women and 29% of men in urban area of the country are overweight. India is in 7th place in terms of obesity index **[1]**. Earlier, obesity was a life style problem, but now World Health Organisation have classified it as a disease. Ayurveda has given more emphasis on balanced state of Body tissues while mentioning definition of health. According to Ayurveda, Obesity is a condition in which *Medodhatu* (Fatty Tissue) is in a state of *Vikrita Vriddhi* (Abnormal increase).

MATERIALS AND METHODS

The Literary material related to obesity has been collected from Several Ayurvedic texts like Charakasamhita, Sushrutsamhita, Ashtang Sangraham, Ashtanga Hridayam etc.

Definition of Atisthaulya (Obesity)

A person who due to extensive growth of fat and flesh is unable to work and disfigured with pendulous buttocks, belly and breasts is called *Atisthula* and condition is termed as *Atisthaulya* **[2]**. The term obesity is defined as an excess storage of energy in the body in the form of fat. Obesity is an increase in body weight beyond the limitation of skeletal and physical requirements as the result of excessive accumulation of body fat. BMI (Body Mass Index) more than 30 kg /m^2 is also used for diagnosing obesity.

Causative factors for Obesity

The heredity component (*Bijadosha*), besides dietetic, regimen and psychological factors in the causation of obesity is described in Charaka Samhita **[3]**. Except these factors, the components which may vitiate *Meda* (Fatty Tissue) and *Kapha* (One of the three humors of the Body) could be considered as causative factors of Obesity.

Dhatvagni Mandya (Weak digestive fire at the level of body tissues) is the main cause besides other components in the etiopathology of *Sthaulya* **[4]**.

In the context with obesity, exogenous causes are *Meda* potentiating diet and regimens where as *Dosha* (Three humors of the body), *Dhatu* (Body tissues), *Mala* (Excreta) *Srotas* (Body channels) etc. come under the endogenous factor.

All the factors can be categorized under four groups **(Table 1)**.

1. *Aharatmaka Nidana* (Dietetic Causes)
2. *Viharatmaka Nidana* (Regimonal Causes).
3. *Manasa Nidana* (Psychological factors).
4. *Anya Nidana* (Other).

Table 1: Endogenous factors of Obecity

Ahartmaka	*Viharatmaka*	*Manasa*	*Anya*
Adhyashana **(Taking food after lunch or dinner)**	***Avyayama*** **(No Exercise)**	***Harshanityatva*** **(Happiness)**	***Amarasa*** **(Indigestion)**
Atisampurna **(Binge eating)**	***Avyavaya*** **(No sexual activities)**	***Atichintana*** **(No worries)**	***Snighda, Madhura Basti sevena*** **(Enema which contain Oily and sweet drugs)**
Ati Brimhana **(Over nourishment)**	***Diwaswapa*** **(Day sleeping)**	***Manasonivritti*** **(Idle Mind)**	***Tailabhyanga*** **(Oil Massage)**
Guru Ahara Sevana **(Taking food which is heavy to digest)**	***Sukha Shayya*** **(Very comfortable bedding)**	***Priyadarshana*** **()**	***Snigdha Udvartana*** **(Powder massage with oily drugs)**
Madhura Ahara **sevana (Excessive use of Sweets)**	***Atisnana Sevana*** **(Excessive Bathing)**		
Shleshmala Ahara Sevana **(Food which will increase *Kapha*)**			

Samprapti (Etiopathogenesis) (Figure 1)

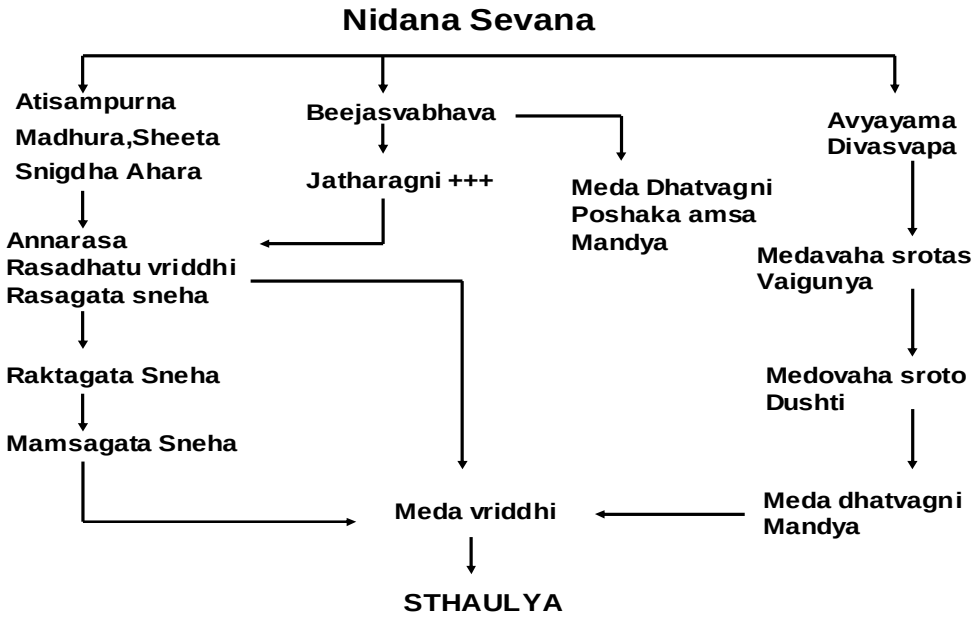

Figure 1: Samprapti (Etiopathogenesis)

Pathogenesis of Obestiy (Modern Perspective)

Adult onset obesity is characterized predominantly by adipose cell hypertrophy with minimum hyperplasia. Apart from the increase in size of normal depots eg. The subcutaneous tissue, the omentum, the retoroperitoneal tissues and epicardium, adipose tissue in obesity may be extended to the tissues, where it is normally absent.

Excessive lipid deposition, diminished lipid mobilization and diminished lipid utilization are the three main components in pathogenesis of obesity.

Excessive lipid deposition is due to increased food intake, hypothalamic lesions, adipose cell hyperplasia or hyper lipogeneis. Increased food intake in the form of carbohydrates, proteins and fats by metabolic process lastly converts into fats and gets stored in fat depots.

Diminished lipid metabolism is due to either decrease in lipolytic hormones, abnormality of autonomous innervating thyroxine and adrenaline which stimulates mobilization of unsaturated fatty acids from adipose tissue, abnormality of these two causes diminishes lipid mobilization, increases lipid deposition and ultimately leads to obesity.

Diminished lipid utilization is either due to ageing, defective lipid oxidation, defective thermogenesis or inactivity. Diminished lipid utilization is the main pathology in middle age obesity.

Rupa (Sign & Symptoms)

Charaka has enlisted the following symptoms as cardinal symptoms of Obesity. *Medomamsa ativriddhi* (Excessive growth of Muscle & Fat tissue), *Chala Sphik-Udara-Stana* (Pendulous Buttocks-Abdomen-Breast), *Ayatha Upachaya* Utsaha (Disproportionate strength with his physical growth) **[5]**. Besides these cardinal symptoms, eight disabilities of *Atisthaulya* (Morbid Obesity) i.e. *Ayusho Hrasa* (Deficient in longevity), *Javoparodha* (Less energy levels), *Krichchra Vyavaya* (Difficulty during Sexual Intercourse), *Daurbalya* (Weakness), *Daurgandhya* (Bad Smell), *Swedabadha* (More Sweating), *Ati Kshudha* (Excessive Hunger) and *Ati Pipasa* (Excessive Thirst) are the most prominent clinical features of Morbid Obesity narrated by Charaka **[6]**.

Diagnosis

Specific criteria for diagnosis of obesity:

1. Age specific weight for height table
2. Body Mass Index (BMI)
3. Skinfold Measurements
4. Body girth measurement

Classification of Sthaulya (Obesity)

The manifestation of sthaulya can be elaborated on the basis of causative factors, manifestation etc. as follows:

***Hina Sthaulya (BMI 25-30- kg/m^2) –* Overweight**

Mild degree of overweight without any complications or secondary diseases with less than 1 year duration is considered as *Hina Sthaulya*.

***Madhyama Sthalya (BMI 30-40 kg./m^2) –* Obese**

Moderate degree of overweight with least complications without secondary diseases having duration of 1 to 5 years can be considered as *Madhyama Sthaulya*.

***Adhika Sthaulya (BMI > 40 kg/m^2) –* Morbid Obese**

Excessive stage of overweight with complications and secondary diseases, with all 8 undesirable effects and having duration more than 5 years can be considered as *Adhika Sthaulya*.

TYPES OF OBESITY

I. ***Android***

Male type of obesity where excess fat is marked in upper half of the body. The lower portion of the body are thinner beyond proportion and comparison with upper part.

It is common in female too:

- Undergone hormone treatment.
- Around menopause due to thyroid gland's disturbance

Vital organs affected – Heart, Liver, Kidney & Lungs

Major risk factor for heart diseases

II. ***Gynaecoi***

Common in both sexes but females more affected. Excess fat deposition is in lower part of body. Spine is never erect due to heavy hips and thighs.

- Vital organs affecte: Kidneys, uterus, intestines, bladder.
- These organs may have effect on heart.

III. ***Neither Android or Gynoid***

Whole body affected. The fat tissues in their body hinder the movement of all the internal organs and consequently affect their functioning.

***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.Kasa; 9. Kustha; 10. Mutra Kriccha;11. Prameha; 12. Prameha pidika; 13. Shlipada; 14. Sanyasa

15. Udarroga;16. Urusthambha; 17. Vata vikara; 18. Vriddhi

Sushruta has described that the complications occur due to grave obstruction of various body channels particularly Medovaha Srotas **[7]** (A body channel which regulates fatty tissue in the body).

Complications which are Described in Modern Science

1. Diabetes; 2. Heart Diseases; 3. Arthritis; 4. Cancer; 5. Hypertension; 6. Gall stones; 7. Sleep disorders; 8. Piles etc.

SADHYASADHYATA (Prognosis)

Krichchrasadhya (Difficult to cure) nature of Obesity has been described by most of the Ayurvedic classics. Moreover, lack of immune power is mentioned as common feature as well as serious drawback of Obesity **[8]**. Bad prognosis of *Sahaja* (Congenital) diseases is described in Charakasamhita **[9]**. Therefore prognosis of Obesity can be constructed on the basis of general principles of prognosis depicted in Ayurvedic classics **[10]** which is as follows:

Sukhasadhya

Jatottara Hina Sthaulya having the chronicity of 1 to 5 years and without complications and having BMI between 25 to 30 kg /m^2

Kricchasadhya

Jatottara Madhyama Sthaulya having the chronicity of 5 to 10 years with least complicatins and having BMI between 30 to 40 kg/m^2

Asadhya

Sahaja(Congenital) *Sthaulya* is *Asadhya*, *Jatottara Adhika Sthaulya* having chronicity of more than 10 years and with all the complications and having BMI more than 40 kg/m^2.

***Sthaulya Chikitsa* (Management of Obesity)**

The first line of treatment of Obesity is to avoid the causative factors. *Nitya langhana* therapy (Reducing Therapy) and *Langhana* even in *Shishira Ritu* (Winter Season) is advised for the patients of Obesity by Vagbhata **[11]**. Types of *Langhana* therapy i.e. *Vamana*, *Virechana* (Biopurification therapies)etc. are advised for practice according to *Vyadhibala* (strength of the disease) and *Dehabala* (strength of the patient) by Charaka **[12]**. Amongst *Shadvidha Upakrama* (Six fold Therapy), *Langhana* and *Rukshana* (Drying) therapies are more suitable for the management of Obesity. Vagbhata included all therapies under two main headings i.e. *Langhana* (Reducing therapy) and *Brimhana* (Nourishing therapy). *Langhana*, the line of treatment for Obesity has been further divided into *Samshodhana* (Biopurification therapies) and *Samshamana* (Alleviating Therapies) **[13]**.

Samshodhana

All Obese patients with *Adhika Dosha* (Increased Bio humors) and *Adhika Bala* (More strength) should be treated with *Samshodhana* therapy including *Vamana* (Medicated Emesis), *Virechana* (Medicated Purgation), *etc.***[14]** Being a syndromic

condition, *Samshodhana* therapy is highly recommended for Obese patients possessing stamina and strength **[15]**. *Ruksha, Ushna, Tikta Basti* (Enema containing dry, hot and bitter drugs) are also suggested by Charaka. **[16]** *Ruksha Udvartana* (Dry powder massage) is the *Bahya Shodhana* (External therapy) indicated for the management of Obesity **[17]**. Exigency use of *Taila* (Oil) is recommended **[18]**.

Shamana

Among the *Shat Upakramas, Langhana* and *Rukshana* can be administered in them **[19]**. Alleviation of *Vata, Pitta* and *Kapha* especially *Samana Vayu, Pachaka Pitta* and *Kledaka Kapha* (Biohumors) along with reduction of *Medodhatu* by increasing *Medodhatvagni* is the main goal of treatment of Obesity. Administration of *Guru* and *Apatarpana* articles which possess additional *Vata-Shleshma*-(Alleviating *Vata-Kapha-Meda*) properties is considered as an ideal for *Sanshamana* therapy **[20]**. In Ashtanga Samgraha usage of *Laghu (*Light*), Ushna* (Hot), *Ruksha*(Dry), *Tikshna* (Sharp) etc. are suggested for Obesity management as they possess *Medonashaka*, *Kaphanashaka* and *Sthaulyahara* actions **[21]**.

Lekhaniya (Drugs having scrapping action) *Dashemani* (Ten) *Gana* (Group) mentioned by Charaka can be useful in managing obesity **[22]**.

Dose Duration & Method of Treatment

Pragbhakta i.e. intake of medicine before meals is insisted for Krishikarana (losing weight) purpose **[23]**. (AS. Su. 23/14)

Among *Panchavidha Kashaya Kalpana* (Five pharmaceutical processes), *Kalka Kalpana*(Paste) is attributed to have *Karshana* (To reduce fat) and *Durjara* (Difficult to digest) properties and the same is advocated in the management of Obesity. The use of *Avishadkara, Mridu, Sukhakara Aushada* in gradual increasing dose with caution is advised for sthaulya management **[24]**. Further it has been emphasized to consider *Agnibala* (Strength of the Digestive fire), *Dehabala, Doshabala* (Strength of the vitiated body humors) & *Vyadhibala* prior to fixation of dose and duration of treatment of Obesity **[25]**.

***Sthaulya Pathyapathya* (Suitable-Unsuitable for the Patients of Obesity)**

***Pathyapathya Ahara* (*Food*)**

Table 2: ***Pathyapathya Ahara* (*Food*)**

Ahara Varga (Food)	*Pathya (Suitable)*	*Apathya (Unsuitable)*
Shuka Dhanya (Food grain)	*Yava,Venuyava, Kodrava, Nivara*	*Godhuma, Navanna, Sali*
Shami Dhanya (Pulses)	*Mudga, Rajmasha,Kullatha, Masura, Adhaki*	*Masha, tila*
Shaka Varga (Vegetables)	*Vrintaka, Patrashaka, Patola*	*Madhuraphala*
Drava (Liquid Stuff)	*Takra, Madhu, Ushnodaka, Dugdha, til taila, Asava, Arishta*	*Ikshu, Navnita, Ghrita, Dadhi*
Mamsa (Meat)	*Rohita Matsya*	*Anupa, Audaka*

Pathya / Apathya Vihara (Regimen)

Table 3: ***Pathya / Apathya Vihara* (Regimen)**

Pathya	*Apathya*
Shrama (Hardwork)	*Sheetala Jalasnana (Use of cold water for bath)*
Jagarana (Late nights)	*Divaswapa (Day sleeping)*
Vyavaya (Sexual activity)	*Avyayama, Avyavaya (less exercise and less indulgence in sexual activity)*
Nitya Langhana (Regular use of Reducing therapy)	*Swapna Prasanga (Excessive sleeping)*
Chintana (Thinking)	*Sukha Shaiyya (Comfortable bedding)*
Shoka (Sorrow)	*Nitya Harsha (Happiness)*
Krodha (Anger)	*Achintana, Manaso Nivritti (Idle mind)*

Diet

Diet must be nutritionally adequate but must be lower in calories, with vitamins and mineral supplements. A mixed balanced diet is a sensible approach to long term weight reduction. The protein should be of high quality so that essential amino acid can be utilized to maintain lean body mass. Food, high in fiber should be used liberally because of their low caloric density.

DISCUSSION

Charaka has given detail description of causative factors, etiopathogenesis, sign and symptoms of Obesity. Acharya Susruta has added the complications of the disease & given importance to avoid causative factors of the disease. Out of the commentators, Dalhana has introduced the concept of *Dhatvagni Mandya*. The term '*Sthula'* (Obese) itself indicates the deposition of *Prithvi* and *Apa Mahabhuta* dominant factors in the body.

Nidana of *Sthaulya* is divided in four categories *Aharatmaka*, *Viharatmaka*, *Manasa* and *Anya*. Besides these *Nidanas*, nowadays it is seen that due highly refined

food with maximum percentages of carbohydrates & high-tech machineries which makes a person less active & prone to Obesity. Nowadays, *Nidanas* of *Sthaulya* are changing e.g. previously *Manasonivrtti* and *Harsanityatva* were said to be the *Nidanas* of *Sthaulya* but these are now changing to increasing stress which causes episodes of binge eating leading to Obesity. Hereditary factor is also coming up as the prominent cause for Obesity.

Etiopathology of Obesity can be interpreted two ways, according to Charaka Samhita in which there is just increased *Jatharagni* (Digestive fire) which causes maximum ingestion and leads to maximum absorption of *Prithvi* and *Apa Mahabhuta* dominant factors in the body leading to increased *Medodhatu* in the body. According to Dalhana, there is a state of *Medodhatvagnimandya*, which leads to excessive formation of improper *Medodhatu* leading to Obesity.

There is abundant growth of *Medodhatu* in Obesity which is having *Prithvi* and *Apa Mahabhuta* dominance. It is a condition of *Vriddha* (Increased) *Medodhatu*. It requires the drug which can cause diminution of *Medodhatu* for its cure. Ayurveda recommends various treatment modalities like *Shodhan* and *Shaman*. According to the stage of the disease and strength of the patient suitable treatment modality can be selected.

CONCLUSION

- Charaka has mentioned *Sthaulya*(Obesity) under the caption of *Santarpanottha Vikara* and it should be treated with *Apatarpan* (Reducing Therapy).
- Though *Sthaulya* is mentioned as *Krichchrasadhya Vikara* but on the basis of BMI one can say that if a person's BMI lies between 25-30 kg/m^2 it can be termed as *Sadhya* (Curable) but if it goes beyond 30 kg/m^2 then it becomes difficult to cure.
- *Nidanas* of *Sthaulya*, mentioned in classics are now changing. Increasing stress, faulty dietary habits and decreased awareness regarding exercise are becoming the prominent causative factors.
- *Kapha prakriti* (Kapha predominant body constitution) persons are more prone to *Sthaulya* so they should be advised proper diet regimens and exercise.
- In Society, Percentage of population suffering from *Sthaulya* is increasing day by day so they should made aware regarding the disease and its

severe complications before it reaches to its epidemic level.

- 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, employers and local NHS 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.
- Use of Biopurification methods along with drugs can give better results in obesity.

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