



ANALYTICAL REVIEW ON MEDO ROGA WSR TO OBESITY

Dr. Arun Gupta

Professor and HOD, Department of Panchkarma, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, New Delhi.

Dr. Aditya Dev*

PG Scholar, Department of Panchkarma, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, New Delhi. *Corresponding Author

ABSTRACT

Medo Roga is abnormal and excess accumulation of *Meda Dhatu*. In contemporary medical science it is compared with obesity and it is defined as excess body and visceral fat that poses health risk. The most commonly used definition, established by the WHO in 1997 and published in 2000 defined obesity as a common chronic disorder of excessive body fat and has become a global epidemic which is present not only in the industrialized world but also in many developing and even in underdeveloped countries. Commonly obesity is due to excessive eating and lack of adequate exercise. *Acharya Charaka* has quoted *Medo Roga (Sthoulya)* under the eight varieties of impediments which designated as *Astha-Nindita Purusha*, *Ati-Sthoulya* comprises one of them. *Acharya Charaka* also lists this problem under *Santarpanjanya Vyadhi*. He listed eight defects underlying- *Sthoulya Purusha*, *Ayuhrasa*, *Javoparodha*, *Daurabalya*, *Dauragnadhy*, *Krichhavyavayata*, *Swedabadh*, *Ati-trishna*, *Ati-pipasa*. Thus, this article will revolve around the concepts of medoroga in relation to obesity.

KEYWORDS : Medoroga, tridosha, jathragni, obesity, BMI**INTRODUCTION**

According to W.H.O. 2016 more than 1.9 billion adults, 20 and older, were overweight. Of these over 300 million men and nearly 400 million women were obese¹. 35% of adults aged 20 and over were overweight in 2016, and 11% were obese. In 2016, more than 42 million children under the age of five were overweight. Overall more than one in ten of the world's adult population was obese and women more likely to be obese than men². According to a study report, the obesity epidemic in India has increased by almost 30% from 1998 to 2010. Currently almost 1 in 5 men and over 1 in 6 women are overweight. In some urban areas the rates are as high as 40%³. As per *Charaka* In the case of fatty person, other *Dhatu*s doesn't grow to the extent. In today's fast life incongruous food habit and relatively less exercise can be taken as major cause of obesity⁴. According to *Acharya Dalhana* seems to more explicit while commenting on a *Medoroga* specified that *Agni* which is involve in pathogenesis of the disease viz. *Dhatvagnimandya*. Lack of physical activity, frequent diet, industrialization, tension during the work, different types of junk food e.g. fast food, bakery items, increased amount of the soft drink result in *Medo Roga*. Some one whose increased *Meda* and *Mamsa Dhatu* makes his hips, abdomen and breasts pendulous and whose vitality is much less than his body size is *Medo Roga (Obese)*. *Medo Roga* has been classified under "*Ashta Nindita Purusha*"⁵. *Acharya Charaka* described a person with a well balanced proportion of muscles and compactness of the body and firmness in sense organs is not overcome by the onslaught of disorders. Such people can tolerate hunger, thirst, the heat of the sun, cold and physical exercise. Their digestion, assimilation of food and muscle metabolism is in a state of equilibrium⁶.

सममांसप्रमाणस्तु समसहननो नरः। दृढेन्द्रियो विकाराणाम न बलेनाभिषिंयते ॥
क्षुब्धपिंसासितिसहः शीतव्यायामसांसहः। समिका समजरः सममांसचयो मतः ॥
(Ch.Su.21/18-19)

In *Medo Roga* increased *Meda*, *Agni* and *Vayu*, which creates complications like *Prameha-Pidika*, *jwara*, *Vidradhi* and *Bhagandara* etc. Besides this, *Medo Roga* precipitates diseases like diabetes mellitus, coronary heart diseases, gallstone, osteoarthritis, infertility, atherosclerosis and hypertension etc. Derrangement of *Agni* or digestive power leads to production of *Ama*, which disturbs tissue fire of fatty tissues and blocks the proper formation of further tissues. Improperly formed fatty tissue accumulates in the body causing obesity. Overweighing & obesity is the chief problem of the human of present era. Obesity is a chronic disease that is highly prevalent and that poses as serious risk for the development of diabetes mellitus, musculoskeletal disorders especially osteoarthritis, cardiovascular diseases, hypertension and certain types of cancer⁷. The treatment for obesity generally contains of dieting and physical exercise. Diet regime may produce weight loss over the short term, but maintaining this weight loss is frequently difficult and often requires making

exercise and a lower calorie diet a permanent part of an individual's lifestyle⁸. In *Ayurveda* more attention receive on lifestyle modifications based on numerous places, seasons, and also daily regimen (*Ahara*, *Vihara*, *Nidra*) to maintain wellness of a healthy person and to cure the disease without any side effect. This is the ideal treatment for obesity.

NIDANA OF MEDO ROGA

As per *Acharya Charaka* and *Sushruta* equilibrium of *Dosha – Dhatu – Mala* is considered as all important factors governing health. The unbalanced *Dosha* and *Mala* are termed as disease; whereas this balanced state is health.

Charaka has classified the causative factors of disease into 3 categories:

1. *Nija* (Internal)
2. *Agantuja* (External)
3. *Manasa* (Psychological)

The disease due to external causes eventually leads to internal abnormalities. He also elaborates further that *Agantuja* (external causes) diseases, in course of time lead to derangement of three *Dosha* thus finally changing the internal factors (on causing internal diseases). All the *Nidana* (causative factors) mentioned in *Ayurveda* classics can be classified into 4 groups –

1. *Aharaja Nidana*
2. *Viharaja Nidana*
3. *Manasa Nidana*
4. *AnyaNidana*

ETIOPATHOLOGY OF STHOULYA:**1). Role of Ahaara in Sthoulya –**

"रसभनभमिमे"स्थौल्यांकाशयप च ॥" (Su.Su.15/37)

Ahara Rasa plays an important role for increasing *Meda Dhatu* in *Sthoulya*, therefore *Sushruta* has mentioned that *Sthoulya* and *Karshya* depends upon the quality and quantity of *Ahara Rasa*. According to *Samanya Visheshha Siddhanta*, the excessive intake of food of similar substances (*Dravya Samanya*) helps in the over production of *Dhatu* same as the growth of *Meda Dhatu* is observed by excessive intake of fatty substances. Due to *Dravya Samanya Siddhanta*, *Ahara* having specific *Rasa*, *Guna*, *Virya*, *Vipaka*, *Karma* and *Panchabhautika* composition casues over production and accumulation of *Dhatu*.

2). Role of Vihara in Sthoulya:-**1). Vyayama –**

Acharya Charaka defined *Vyayama* as the voluntary and rhythmical body movements which promote physical fitness and strength of body is termed as *Vyayama*. *Vagbhatta* has described the benefits of *Vyayama* as-

"लाघिंव्यायामािुजायते।" (Ch.Su.7/32)

Acharya Sushruta has defined Vyayama as those body movements, which cause body tiredness (Ayasa). His directly explained that activity bring lightness, stimulation of Agni, able to work and mainly loss of Meda and also quote that no other thing is helpful in reducing Sthoulyata as compared to Vyayama thus due to opposite action of Vyayama in the body like hypo – function of Agni, heaviness, Sluggishness and vitiation of Dosha each come in way. On the other side Avyayama cause aggravation of Kapha and sore the energy in the form of Meda there by produce etiopathogenesis of Sthoulyata.

ii). Sukhashaiyya –

Prolong sitting on comfortable seat called as Sukhashaiyya. This is also a Kapha and Meda aggravating factor which cause increase in Mamsa and Medo Dhatu production and ultimately cause Medo Roga.

iii). Divaswapna and Atinidra –

Divaswapna cause Kaphavridhi and its Abhishyandi Guna leads to blockage in whole body micro channels, especially in MedovahaS rotasa. Because of excessive sleep at night and day physical activity diminishes causing aggravation of Kapha and again leads to Meda deposition. Due to Karma Samanya Siddhanta moreover reduced metabolic rate during sleep is an important factor for genesis of excess fat.

3). Role of Mansika Nidana:-

Because Sthoulyata is considered under the group of psychosomatic disease, we must think about psychogenic factors. As per our Ayurvedic texts Acharaya Charaka has mentioned

"ति अभतस्यौल्यां हृषभनपयपिभिचंचानात " ||

Ch.Su.21/4

It means these two, are the responsible for Medovridhi. These factors are Kapha aggravating factors which are turn aggravating Meda. With these types of psychological wellbeing and jolliness that person indulge more in wordly pleasure, overeating, sedentary habits and physical inactivity, which are established cause of Sthoulyata.

4). Role of Beeja Dosha-

According to Charaka has defined Beeja Dosha as one of the cause of obesity besides others. According to him defect in Beejabhagavayava i.e. part of Beeja which resembles with chromosomes and genes may lead to defective development of that organ. In Sharira sthana he directly cleared the fact that if pregnant woman administer Madhur Aharasevana daily then she will pasteurize a diabetic and obese child who exactly says that genetic factors are there and child obesity is also was there. Thus we can conclude that Beejadoshabhava is also a dominating casue for obese persons. According to Bhavamishra has mentioned that decreased proportion of Meda and increased proportion of Shukra in Beeja at the time of conception results in development of potent and lean body and conversely increased proportionate of Meda and decreased proportion of Shukra predisposes towards development of stout but weak body.

PURVAROOPA OF MEDO ROGA

The probable Purvaroopa of Sthoulyata are -

1. Atinidra
2. Tandra
3. Aalasya
4. Angashaitihilya

ROOPA OF MEDO ROGA

Besides these cardinal symptoms and disabilities of Sthoulyata are –

1. Ayushohrasa (Diminution of life span)
2. Javoparodha (Lack of enthusiasm)
3. Kricchavyavayata (Difficulty in sexual act)
4. Daurbalya (General debility)
5. Daurgandhya (Foul smelling of body)
6. Swedadhikya (Excessive sweating)
7. Atikshudha (Excessive hunger)
8. Atipipasa (Excessive thirst)

Elaborated pathogenesis of occurrence of Asta Dosha of Sthoulyata has been described, which is as follow –

- 1). Ayushohrasa – Diminution of life span is due to excessive growth of Medo Dhatu, which inhibits the nourishment of further Dhatu.

- 2). Javoparodha – Due to Sukumarya, Guru and Shaithiliya properties of Medo Dhatu it causes Javoparodha.
- 3). Kricchavyavayata – Because of less production of semen and obstruction in genital passage by Medo Dhatu, the sex act become difficult.
- 4). Daurbalya – Due to malnourishment of Sapta Dhatu, the general debility occurs.
- 5). Daurgandhya – It results due to excessive sweating, innate quality of Medo Dhatu and nature of vitiated.
- 6). Swedadhikya – Due to association of Meda with Kapha (Kledaka) its oozing nature, abundance, heaviness and intolerance to physical exercise there is Swedadhikya.
- 7-8). Atikshudha and Atipipasa – Due to increased Agni in Kostha and vitiation of Vata by obstruction of Meda it results in excessive appetite and thirst

Samprapti Ghataka –

Dosha-Kapha – Kledaka

Pitta – Pachaka

Vata – Samana, Vyana

Dushya - Rasa, Meda

Srotas -Especially Medovaha, Rasavaha

Srotodusti -Sanga (Margavarodha)

Agni -Jatharaagni, Medadhatvaagni

Adhithana- Complete body, Sphika, Udara, Stana, especially Vapavahan and Medodharakala.

Vyaktisthana Sarvanga, specially Sphika, Udara, stana

Rogamarga- Bahya

Svabhava- Chirkalina

SADHYAASADHYATA

As per the criteria of Sadhyaasadhya, Sthoulyata is Krichhasadhyata Vyadhi. Charaka has explained the poor prognosis of Sthoulyata as.

"मेस्यतीसिब्द्सेहसैिाभनलाद्यः

विकारारिरुणारकृपिनाशयरपयाशुजीवितम् ||" Ch.Su.21/8

Means if an obese person is not duly managed, he is prone to death due to excessive hunger, thirst and complications. Again Charaka has mentioned the involvement of Beeja Dosha in Sthoulyata. Along with this Charaka has also explained that Kulaja vyadhi are Asadhya due to involvement of Beeja Dosha, hence Sahaja Sthoulyata can be condiseder as Asadhya. On studying the genetic factor of obesity the obese child with hereditary involvement have more number of fat cells in comparison to slim child. So that the child with family history, is more prone to put on weight if he/she is over nourished and that's why it is very difficult to reduce the body weight in these obese patient.

4). Specific line of treatment –

The specific line of treatment is also described in Samhita along with general line of treatment.

- a). "रुचातिपणःचे ांस्थूलानांकशपनाप्रभत।" (Ch.Su.21/20)

Though Guru Dravya is a causative factor of MedoVridhi being possess same Guna and how it is recommended for treatment. On this statement Chakrapani has clarified that Guru Dravya being difficult for digestion maintain the power of TikshnAgni, Apatarpana refer to non-nourishing foods. Like honey is Guru, maintain the stimulated Agni and due to its Apatarpana property reduces the Meda. So the Ahara Dravya which is difficult for digestion and having low in calories should be recommended for Sthoulyata.

- b). "िातन्नअरनिनाभनक्षेप्ममेिोहरान्दणच।

रुक्षोउष्णाबस्तयस्तीक्ष्णारुक्षणउत्तपनाभनच" ||48

Here again Acharya Charaka has more specified the line of treatment for Sthoulyata. Here Vatagha Annapana is prescribed because after treatment Meda will reduce in so many parts like Stana, Udara and Kati and thus there will be Shunya Avakasha in that place. Due to Shunya Avakasha, Vata will disturb the other bio functions. To pacify the aggravation of Vata, Vataghna Annapana must be given to sthula purusha with other treatment.

DEFINITION OF OBESITY –

Obesity is classified on the different basis like onset, severity of the disease, histopathology and fat distribution etc. that are mentioned as below-

1. On the basis of onset –

- a. Insidious
 - b. Gradual
 - c. Rapid
2. On the basis of Severity –
- a. Mild
 - b. Moderate
 - c. Severe

On the basis of clinical condition –

- a. Enviably
- b. Ragally
- c. Pitiably

On the basis of BMI –

- I. Overweight – 25 – 29.9 Kg/m²
- II. Obesity (Class-1) 30 – 34.9 Kg/m²
- III. Obesity (Class-2) 35 – 39.9 Kg/m²
- IV. Severe or morbid obesity (Class-3) >40Kg/m²

3. On the basis of etiological factors

- I. Physiological - Observed temporarily during puberty and pregnancy.
- II. Pathological

BASIC CONCEPT OF FAT / LIPID

DEFINITION OF LIPID- Lipid is any of a heterogeneous group of fats and fat like substances, including fatty acids, neutral fats, waxes, and steroids, which are waterinsoluble and soluble in non polar solvents⁹.

ETYMOLOGY:

In Greek, lipos means fat, eidos, form any of a structurally diverse group of organic compounds that are insoluble in water but soluble in alcohol, chloroform, ether, and other solvents¹⁰.

Lipids are a broad group of naturally – occurring molecules which includes body fats, Waxed, sterols, fat – soluble vitamins (such as vitamins A, D, E and K), monoglycerides,

diglycerides, phospholipids, and others. The main biological functions of lipids include storage, as structural components of cell membranes and as important signalling molecules.

ETIOLOGY OF OBESITY:

The causes of obesity are distributed in main three groups according to modern science.

1. **Exogenous:** Where the main causes can divide in
 - **Dietary Habits:** over eating, drinking habits, fatty diets
 - **Activity patterns:** lack of exercise, lack of normal sleep etc

2. **Endogenous:** Where endocrine factors are responsible

3. **Miscellaneous:** A number of factors responsible for development of obesity, which are described as follow:

- Age
- Sex
- Occupation
- Socioeconomic factors
- Psychogenic factors
- Environmental factors
- Constitution
- Drugs
- Caloric imbalance
- Heredity
- Hypothalamic trauma

The B.M.I. is the actual body weight divided by the height squared in metre (kg/m²). This index provides a satisfactory measure of obesity in people who are not hypertrophied athletes¹¹. The classification of obesity as per B.M.I. is as:

Under weight - <18.5kg/m²

Normal weight - 18.5 – 24.9kg/m²

Over weight - 25 – 29.9kg/m²

Obesity (Class-I) - 30 – 34.9 kg/m²

Obesity (Class-II) - 35 – 39.9kg/m²

Morbid obesity (Class-III) - >40kg/m²

India has reworked the obesity guidelines¹² by considering the alarming growth of abdominal obesity by lowering the BMI from

25kg/m² for overweight to 23kg/m².

Revised BMI for India Status

1. 23 – 25 kg/m²: Overweight
2. >25 kg/m²: will be clinically termed obese
3. >32.5 kg/m²: will require bariatric surgery to eliminate excess flab.

TREATMENT OF OBESITY

The main treatment for obesity consists of dieting and physical exercise¹³. Diet programs may produce weight loss over the short term, but maintaining this weight loss is frequently difficult and often requires making exercise and a lower food energy diet a permanent part of a person's lifestyle.

In obesity chief factor is energy imbalance i.e. when caloric intake exceeds the metabolic expenditure, the excess energy stored in the form of fat. Weight Reduction can be achieved only by reducing energy intake or by increasing output or by combination of both. There are two aims during management of obesity. First aim of therapy is to reduce weight. Second aim of therapy is prevention of further weight gain. The strategy for treatment of obesity includes phases as:

1. Patient counseling
2. Dietary management
3. Exercise therapy
4. Behavior modification
5. Pharmacotherapy
6. Weight loss surgery

DISCUSSION

The disease *Medo Roga* is well recognized disease under the *Samhitakaal*. *Acharya Charaka* has mentioned *Atisthoulya* under *Ashta ninditiya Purusa and Santarpanjanya Vikara*. *Charak Samhita* has considered *Sthoulya* as a complicated health condition, duly recognizing it as a condition of *Nindita* (undesirable). It is not only one among the eight undesirable physical status, but also difficult to treat and most severe form of them. *Sushruta* has considered it as *Rasa Nimittaja Vyadhi*. *Madhava Nidana* is the first text book which has dedicated a separate chapter for the discussion of obesity under the label *Medo Roga* and used *Medosvina*, *Atisthula* and *Shula* words as synonym. *Bhavaprakasha* and other later text books of *Ayurveda* have also discussed this subject in detail.

CONCLUSION

Charaka has narrated *pratyatmlakshan (Roopa)* of *Sthoulya* as *Medomamsa Ativirdhi, Chalasphika, Chalaudara, Chalastana, Ayathaupachya, Anutshaha* etc. Besides these cardinal symptoms, eight disabilities of *Sthoulya* are – *Ayusohrasa, Javoparodha, Krichavyavaya, Daurbalya, Dargandhya, Swedabadha, Kshudhaatimatrata, Pipasaatiyoga*.

Samprapti-

Over attachment in *Kapha and Medasadharmi Amarasa* containing etiological factors leads to *Kaphabhushitha Doshavridhi* in the body which causing the production of *Ama*. This *Ama* goes directly to *Meda Dhatu* & lead to increase and accumulation of *Meda* by creating *Medodhatwagnimandhya*.

REFERENCES

1. <http://www.who.int/mediacentre/factsheets/fs311/en/>, retrieved on 1/7/17
2. <http://www.who.int/mediacentre/factsheets/fs311/en/>, retrieved on 25/7/17
3. <http://timesofindia.indiatimes.com>, retrived on 18/2/12 'India in grip of obesity epidemic'
4. Sastri R, Pandeya GS. Vidhyotani Hindi Commentary. *Charaka Samhita Sutrasthana* 21/3-4. Vol. 1. Varanasi: Choukhambha Bharati Academy; 2008. P. 407-409.
5. Sastri R, Pandeya GS. Vidhyotani Hindi Commentary. *Charaka Samhita Sutrasthana* 21/3- 4. Vol. 1. P.407-409.
6. Sastri R, Pandeya GS. Vidhyotani Hindi Commentary. *Charaka Samhita Siddhasthana* 3/8. Vol. 2. Varanasi: Choukhambha Bharati Academy; 2008. p. 989.
7. Harrison's – Principles of internal medicine, Braunwald, Kasper et al. 17th edition, New York
8. <http://www.who.int/mediacentre/factsheets/fs311/en/>, retrieved on 1/7/17ork: McGraw Hill; 2008.
9. Dorland's Medical Dictionary for Health Consumers. ©2007
10. Mosby's Medical Dictionary, 8th edition. ©2009
11. "BMI classification". Global Database on Body Mass Index. WHO. 2006. Retrieved July 27, 2012
12. ([http://www.igovernment.in/site/India-reworks obesity - guidelines - BMI lowered/](http://www.igovernment.in/site/India-reworks%20obesity%20-%20guidelines%20-%20BMI%20lowered/) accessed on 12/12/08)
13. Strychar I (January 2006). "Diet in the management of weight loss". *CMAJ* 174 (1): 56 – 63