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CONCEPT OF ATISTHULATA (OBESITY) WITH ANCIENT AND MODERN VIEW

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ABSTRACT:

Ayurveda is an art and science of life. . The objects of Ayurveda are two folded, viz. maintenance of positive health and the treatment of patients suffering from diseases. But giving emphasis to prevention is better than cure. For this purpose in Ayurveda Dinacharya, Ratricharya, Rutucharya, Aahar Vihar etc is mentioned. If we follow all daily routine properly, body always will be fit and least chance to fall ill.

In the modern era due to our sedentary life style and taking high calorific value diet, fast food etc. and not taking proper physical activities, obesity is widely regarded as pandemic with potentially unfortunate penalty for human health. Obesity has adverse effect on both mortality and morbidity. In Ayurveda, obese individual is included in Astaunindit Purusha.

Keywords: *Atisthula, Dincharya, Ahara Vihar, BMI*

Introduction:

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Causative factors of Sthulata (obesity)[1]:

- Over saturation or excessive intake of food
- Intake of heavy, sweet, cold and fatty diet
- Lack of physical exercises
- Abstinence from sexual intercourse
- Sleeping during day time
- Excessive cheerfulness
- Lack of mental exercise
- Genetic defect or hereditary one

Pathophysiology of *Sthulata* (obesity)[2]:

Due to excessive accumulation of Meda in the body Vata gets obstruction to its normal movement as a result Vata is specially continued to Kostha leading to stimulation of digestive power and absorption of food. Digestion of consumed food become very fast due to enhanced Agni, that's why person eats more and more amount of food. In case of delay in taking food, he is afflicted with some serious disorders because it digests the Dhatus. The Agni and Vata are the two most troublesome and complicating and burn the obese individual like forest fire burning forest. In the event of excessive increase of Meda, Vata etc. that may lead to development of severe disorders and destroy the life of an individual instantaneously.

According to Modern View:

Being seriously overweight is not caused by one single factor. There are a number of things that may interact and contribute to one becoming morbidly obese.

1. Genetics: Genes play a part in how body balances calories and energy. Children whose parents are obese also tend to be overweight. When one of the parents is obese, half the numbers of children are obese and when both parents are obese, 80% of their children are obese. Heredity does not destine to be overweight, but by influencing the amount of body fat and fat distribution,
2. Cultural factors: People learn to eat and cook the way in which they were brought up. Food choices and combinations are learned very early in life. Social events and family rituals are often centered on large meals. Today's culture promotes eating habits that contribute to obesity. People may serve large portions and foods that are most readily available instead of choosing foods that are most nutritious. Cooking with butter, chocolate and other high-caloric foods is a normal part of the American diet. Also, food is often used as a reward in this country. Children are treated to sweets for cleaning their room, and the team is taken for pizza or ice cream after the game. Seldom is eating only when hunger is present.
3. Physical inactivity: Overweight people are usually less physically active than normal weight adults. Seriously overweight people may have difficulty in moving. The additional weight can

cause pain in the feet, knees and ankles. It can cause shortness of breath, making feel tired quickly. Also, we have so many labour-saving devices now that it is difficult for people to get exercise in the amounts the body requires. For example; we drive home, click the garage door opener and relax on the couch with the remote control. All these devices keep away from physical activity.

4. Emotional or Psychological Factors: Food is often a source of relief from emotional distress or celebration. If we feel blue, we may turn to food. If we celebrate a new job or birthday, we may go out to a big dinner. If a friend is grieving, we bake them a pie. Often as children, parents told to clean the plates. Food carries many significant memories from past. Food may be best friend. Food may become less important in life after weight loss, especially if individual have Diabetes mellitus. Weight loss will allow one to acquire new interests in life and become more active and varied in activities.
5. Gender: Muscle uses more energy than fat does. Men have more muscle than women, and burn 10 percent to 20 percent more calories than women do at rest. For this reason, women are more likely to be obese.
6. Age: In advance age, the amount of muscle in body tends to decrease, and fat accounts for a greater percentage of weight. This lower muscle mass leads to a decrease in metabolic rate and metabolism also slows with age. Together, these changes reduce calorie needs. If food intake is not adjusted, person will gain weight.
7. High fat / High-calorie diet: Fat provides more than twice as many calories as protein or carbohydrates (nine calories for fat versus four calories for protein or carbohydrates). This energy difference may explain how fat promotes weight gain. Yet even when caloric intake is the same, a person eating a high-fat diet tends to store more excess calories as body fat than someone eating a lower fat diet. Often low-fat foods are high in calories.
8. Endocrine disorder: Obesity is also one of the cause of endocrine disorders
    - Hypothalamic
    - Hypopitutarism
    - Cushing's syndrome
    - Hypothyroidism
    - Hypogonadism
    - Polycystic ovarian syndrome
    - Hyperinsulinism
9. Long-term use of some drugs: Long-term use of some drugs use of some drugs will cause obesity. Such drugs are;
    - Anticonvulsants- sodium valporate, phenytoin etc.
    - Antipsychotics- chloropromazine, risperidone, olanzapine etc.
    - Antidepressant- citalopram, mitrazopine etc.
    - β- blockers- atenolol
    - Corticosteroids (prednisolone acetate), progesterone, combined oral contraceptives etc.
    - Oral hypoglycemic drugs- glibenclamide, gliclazide, repaglinide, rosiglitazone, pioglitazone etc.
    - Protease inhibitors- indinavir, ritonavir etc.

Eight fold abnormalities of Atisthula (obese) person[3]:

1. Ayush hrash (diminution of longevity):
Except medo dhatu other dhatus do not grow uniformly, as a result of which longevity diminishes.
2. Javoparodha(deranged movement):
Sluggish or deranged movements are due to looseness, tenderness and heaviness of meda.
3. Krichcha Vyavayata (difficulty in sexual intercourse):

Difficulty in sexual intercourse is due to inadequate semen along with obstruction to its normal path by Meda.

4. Daurvalyam (general debility):

General debility is due to inadequate Dhatus.

5. Daurgandhyam (foul smell from the body)

Foul smell from the body is due to inherent defect in Medas and general nature of Meda followed by excess sweating.

6. Swedabadhah(excessive perspiration) :

When Meda is associated with Kapha, which is fluid, multitudinous and heavy and it cannot withstand physical exercise leading to excessive sweating.

7. Kshuthatimatram (excessive appetite) and 8. Pipasatiyoga (excessive thirst):

Excessive appetite and excessive thirst is due to enhanced digestive fire along with excess presence of Vata in Kostha.

According to Modern view

Pathogenic consequence of obesity:

Obesity is a type of disease, which invites many major and minor diseases. It certainly shortens the life span and is associated with an increased incidence of a multitude of major and minor diseases;

- Insulin resistance and type 2 diabetes mellitus: Hyperinsulinemia and insulin resistance are pervasive features of obesity, increasing with weight gain and diminishing with weight loss. Insulin resistance is more strongly linked to intra-abdominal fat than fat in other depots.
- Cardiovascular disease: Obesity, especially abdominal obesity is associated with an atherogenic lipid profile, with increased LDL, VLDL, triglyceride, total cholesterol and decreased HDL cholesterol. Obesity induced hypertension is associated with increased peripheral resistance and cardiac output, increased sympathetic nervous system tone etc.
- Cancer: Recent estimate of cancer death shows that obesity accounts for 14% in men and 20% in women in the United States. Organs causing high mortality are-
  - In men- esophagus, colon, rectum, pancreas, liver and prostate.
  - In women- gallbladder, bile duct, breasts, endometrium, cervix and ovaries.
- Gallstone: A person 50% above ideal body weight has about a six fold increased incidence of gallstones. Obesity is associated with enhanced billiary secretion of cholesterol, super saturation of bile and cholesterol gallstones.
- Bone and joints: Obesity is associated with an increased risk of osteoarthritis, no doubt partly due to the trauma of added weight bearing and joint misalignment. The prevalence of gout may also increase.
- Cutaneous disease: Friability of skin may be increased, especially in skin folds enhancing the risk of fungal and years infections. Finally venous stasis is increased in the obese.

Diagnosis of Atisthulata (obesity)[4]:

- Excessive increase of meda, mamsa
- Buttock, abdomen and breast become pendulous
- There will be disproportionate in enthusiasm in comparison to physical growth.

According to Modern view:

Obesity is a state of disproportionate configuration of body weight and height, which arises due to excessive weight gain. Obesity is the most common cause of ill health.

It is defined in terms of Body Mass Index (BMI). BMI formula: weight [kg] / height [m] ^{2} (weight in kilograms by height in meters squared).

Classification of obesity on the basis of BMI[5]

Overweight	25-29.9 kg/m^2
Obesity (Class-I)	30-34.9 kg/m^2
Obesity (Class-II)	35-39.9 kg/m^2

Severe or morbid obesity
(Class- III) >40 kg/m^2

Management principle:

Genes can make more susceptible to gaining weight, cannot change genetic makeup by willpower, but can still achieve weight loss goals even with a family history of obesity by following:

1. Use low calorific diet:

Food controlling is best way than try to decrease obesity. Obese individual should take low calorific diet like roughage diet such as bulk of green vegetable, fruits, salad etc. these food material contain low calorific value of energy but contain abundant amount of vitamins, minerals etc. that maintain proper functioning of body.

2. Try to decrease body weight:

Obese person should take medicines that decrease Vata, Kapha and Meda dhatu of body. Guduchi,Nagarmotha, Triphala, Takrarista and Honey etc.[6] are the medicines induce catabolism of fat for energy producing and decrease obesity.

3. Taking moderate exercise:

By focusing on benefit of Ardhashakti Vyayama as given in Ayurveda "*Medo Kshaya*" can be explained with decreasing of fat presenting in adipose tissue.

During exercise, secretion of epinephrine and nor-epinephrine are increases from sympathetic nerves and adrenal medulla. The two hormones stimulate triglyceride lipase, which is present in abundance in the fat cells, and this causes rapid break down of triglycerides and mobilization of fatty acids. The use of free fatty acids by the muscles for energy increases as much as eight fold during exercise. In VLDL-cholesterol and LDL-cholesterol triglycerides are present in large percentage. The triglycerides from VLDL and LDL are used by muscles[7]. Lipoprotein lipase accelerates the breakdown of triglycerides, resulting in a transfer of cholesterol and other substances to the HDL-cholesterol[8].

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