Clinical Features and Complicationd of Obesity

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- Objectives

-Define obesity

-Endocrine and metabolic diseases

-Cardiovascular diseases

-Pulmonary diseases

-Cancer

-Musculoskeletal diseases

-Neurologic diseases

-Cataract

-Gastrointestinal diseases

-Genitourinary diseases in women

Obesity is a chronic disease that is causally related to serious medical illnesses.

-In the United States alone, the consequences of obesity account for an estimated 300,000 deaths per year.

-The medical expenses and cost of lost productivity due to obesity are greater than $100 billion per year.

-Factors Affecting Body Mass Index–Related Risk

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/۲Age:

The BMI value associated with the lowest relative risk of mortality increases with increasing age.

/۳Concomitant medical illness:

Cardiovascular diseases, ESRD, hip FX, RA & TB in BMI>=25kg /m2 mortality rate lower than in BMI<25kg/m2

/۴Weight gain:

Weight gain during adulthood. In both men and women, weight gain of 5 kg or more since the ages of 18 to 20 years increases the risk of developing diabetes, hypertension, and coronary heart disease, and the risk of disease increases with the amount of weight gained.

- Factors Affecting Body Mass Index–Related Risk

/۵Aerobic fitness:

R isks of developing obesity-associated diabetes or cardiovascular disease can also be modified by aerobic fitness. In a cohort of more than 8000 men who were followed for an average of 6 years, the incidences of diabetes and cardiovascular mortality[18] were lower in those who were fit, as defined by maximal ability to consume oxygen during exercise, compared with those who were unfit across a range of body adiposity

/۶Ethnicity:

When matched on BMI, the risk of diabetes is higher in Southeast Asian populations than in whites.

Endocrine and metabolic diseases

- The Metabolic or Insulin- R esistance Syndrome
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- Type 2 Diabetes Mellitus
- Dyslipidemia
- Obesity is associated with several serum lipid abnormalities including hypertriglyceridemia, reduced HDL cholesterol levels, and an increased fraction of small, dense LDL particles.
- This association is especially strong in persons with abdominal obesity. In addition, most studies suggest that serum concentrations of total and LDL cholesterol are elevated in obesity.
- Data from N HA N ES III showed that in men, there was a progressive increase in the prevalence of hypercholesterolemia (total blood cholesterol >240 mg dL or 6.21 mmol/L) with increasing BMI.
- In women, by contrast, the prevalence of hypercholesterolemia was highest at a BMI of 25.0 to 27.0 kg/m2, and it did not increase further at higher BMI values.
- The serum lipid abnormalities associated with obesity are important risk factors for CHD.
- Benefits of Intentional Weight Loss
- Type 2 Diabetes Mellitus
- In obese patients with type 2 diabetes mellitus, weight loss improves insulin sensitivity and glycemic control. A 1-year study, conducted in obese patients with type 2 diabetes treated with oral hypoglycemic agents, showed that even a 5% weight loss decreased fasting blood glucose, insulin, and hemoglobin A1C concentrations and the dosage of hypoglycemic medication.
- All patients who lost 15% or more of their body weight decreased or eliminated the need for hypoglycemic medication. In patients with severe obesity who underwent gastric bypass surgery, the average loss of approximately 30% of initial body weight promoted marked long-term improvements in glucose homeostasis.In this study, normal fasting blood glucose, insulin, and hemoglobin A1c concentrations were achieved by 83% of the patients who had type 2 diabetes and by 99% of the patients who had impaired

glucose tolerance. However, a subset of obese patients with severe diabetes might not experience improved glycemic control with weight loss.

- In obese patients with mild type 2 diabetes mellitus, both energy restriction and weight loss have important beneficial effects on insulin action and glycemic control. The initial negative energy balance associated with dieting acutely improves insulin sensitivity before there is a significant change in body weight. Subsequent weight and fat losses further improve glycemic control and insulin-mediated glucose uptake.
- Type 2 Diabetes Mellitus
- Sustained weight loss can prevent the development of new cases of diabetes.For example, the Swedish Obese Subjects (SOS) Study found that in severely obese patients (initial BMI 41 kg/m2) who underwent gastric surgery, a 16% weight loss reduced the risk of diabetes fivefold over an 8-year period. Data reported from the Finnish Diabetes Prevention Study demonstrated that changes in lifestyle that resulted in modest (~5%) weight loss decreased the 3-year incidence of diabetes by 58% in subjects with impaired glucose tolerance.
- Several studies have found that weight loss is more difficult in obese patients with type 2 diabetes than in those without diabetes. Moreover, successful weight loss may be inversely related to the duration and severity of diabetes.The reasons obese patients with diabetes are less responsive to weight-loss therapy are not known, but they might involve the energy-conserving effects of improved glycemic control (reduced glycosuria) and the tendency for weight gain associated with most drug treatments for diabetes.
- Dyslipidemia
- Weight loss usually decreases serum triglyceride, total cholesterol, and LDL-cholesterol concentrations, and serum HDL-cholesterol concentrations increase.
- Improvements in serum triglyceride, total cholesterol, and LDL-cholesterol concentrations are generally greatest during the first 4 to 8 weeks of a weight-loss program.
- Serum HDL-cholesterol concentrations decrease during active weight loss but tend to increase once weight loss stabilizes.
- A greater reduction in LDL cholesterol is observed when weight loss is induced by a program of diet plus exercise than with either treatment alone.
- Seven weeks before admission, she began to have episodes of unusual behavior in the morning after she awakened, including pouring cereal from one container to another and making growling noises; these resolved after approximately 30 minutes, and she had minimal recollection of the episodes.
- She also began to have panic attacks, insomnia, episodes of crying, and increasing feelings of anxiety and hopelessness; diagnoses of anxiety and postpartum depression were made. Clonidine was

administered briefly, followed by clonazepam and, 2 weeks before admission, sertraline, without improvement.