Obesity and CHD

By
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- Obesity is an independent risk factor for the development of coronary heart disease (CHD).
- Over 80% of patients with CHD are overweight or obese.
- Overweight and obesity also predispose to insulin resistance and type 2 diabetes mellitus which, in turn, accelerates the progression of CHD and worsening prognosis. Moreover, insulin resistance and T_2DM are independently associated with renal, ocular, neurologic and cerebrovascular complications.

- While obesity is often considered a relatively “minor” CHD risk factor, weight loss is a broadly effective risk-factor intervention.
- Weight loss can profoundly influence a number of “major” risk factors including: hypertension, dyslipidemia and insulin resistance/type 2 diabetes mellitus.

- Obesity is believed to have a direct effect on metabolic health, since proinflammatory cytokines released by the adipose tissue can lead to subclinical inflammation at long-term, even if counterbalanced by anti-inflammatory cytokines. This condition is characterized by a gradual increase in inflammatory markers, such as C-reactive protein, TNF-alpha and interleukin-6, which have a direct relationship with insulin resistance, hepatic steatosis and endothelial dysfunction, leading to atherosclerosis.

- There are major health implications associated with obesity, including its relationship with hypertension, diabetes mellitus type 2, metabolic syndrome, and dyslipidemia (increased total cholesterol and LDL cholesterol levels with decrease in HDL cholesterol level, in addition to increase level of triglycerides), all independent risk factors for coronary artery disease (CAD).

Heart Problems Related to Obesity

- **Coronary artery disease:** Obesity is a risk factor for coronary artery disease (CAD), which results from cholesterol plaque buildup in the arteries of the heart. Although obesity is linked to many other risk factors for CAD, such as diabetes, high cholesterol, high blood pressure, and metabolic syndrome, obesity is also a risk factor for CAD. The risk for CAD is higher in people with “central” or “visceral” obesity that is concentrated in the abdomen.

- **Heart failure:** Obesity is a risk factor for heart failure even in people without CAD. The exact way in which obesity might cause heart failure in the absence of CAD is not known, but there are 2 main explanations. First, obese individuals tend to have greater amounts of blood, which makes the heart pump harder and can lead to heart failure over time. Because the heart works harder, its muscle size increases, a condition called ventricular hypertrophy.
- Second, obesity is linked to **sleep apnea**, which causes lung problems as well as high blood pressure, both of which can eventually lead to heart failure.

- **Atrial fibrillation:** Many studies have shown that obesity is a risk factor for atrial fibrillation, a type of abnormal heart rhythm. In many cases, atrial fibrillation is seen in heart failure. Therefore, the pathways among obesity, heart failure, and atrial fibrillation are all closely related.

- **Sudden cardiac death:** Some studies have shown that obesity is linked to a higher chance of sudden cardiac death, even in individuals without CAD, heart failure, or other types of heart disease.

Thank you for your attentions