

Obesity and Your Liver

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Obesity rates in the United States and other western countries have increased over the past decade. The prevalence of obesity has doubled in the United States, up to 20% of males and 25% of females are classified as obese. An estimated 315 million people worldwide are obese. These rising rates of obesity have been linked to an increased consumption of fast foods and physical inactivity. Obesity is more prevalent in women than men, most likely secondary to men's ability to store more lean (muscle) than fat tissue.

Body mass index (BMI) is the accepted measure used to define obesity. Individuals that are very muscular and extreme heights, the BMI may not be as reliable. The normal range is 18.5 to 24.9, overweight is 25 to 29.9, obese is >30, and morbid obesity is >40. Body fat distribution is also important and associated with increased medical problems. Central obesity (apple shaped) is associated with more heart disease than gluteo-femoral obesity (pear shaped). Therefore, waist circumference, which is a useful measure of increased intra-abdominal fat, can also predict whether people are overweight or obese.

Obesity rates are higher in women, minorities, and the poor. The highest obesity rates are seen in people with lowest incomes and low educational levels. Therefore, women with the low income and low education levels are at an increased risk for obesity. So, why do the highest rates of obesity occur among the most disadvantaged groups? Several observational studies have shown that low income families, which are mostly, comprised of minorities and women, choose an energy-dense diet. Energy-dense diets are processed foods in which the energy is derived from fats and sugars.

Obesity increases your risk for multiple medical problems, such as diabetes, elevated cholesterol, high blood pressure, cancer, and non-alcoholic fatty liver disease (NAFLD). NAFLD resembles alcohol induced liver injury with little or no alcohol consumption. NAFLD ranges from simple fatty liver → steatohepatitis (inflammation) → fibrosis (scarring) → cirrhosis (end stage liver disease). This occurs particularly in obese individuals with central obesity. The body produces more insulin which leads to an increase in fatty acids → directly toxic to the liver or leads to oxidative stress on the liver.

Most patients with NAFLD are asymptomatic but may see a mild elevation in liver enzymes. The exact prevalence is unknown but majority of cases are between the ages of 40-60. Hispanics are affected more commonly than Caucasians and African Americans. Among Caucasians, men are affected more commonly than women. There is an association with metabolic syndrome aka syndrome X. This involves abdominal obesity, type 2 diabetes mellitus, hypertension, and hyperlipidemia.

Diagnosis is made by history and the exclusion of other causes of liver disease. The gold standard for diagnosis is a liver biopsy. Only a small fraction of patients progress to end stage liver disease. But most cases of cryptogenic cirrhosis are secondary NAFLD that

has developed into non-alcoholic steatohepatitis → cirrhosis. Treatment prior to having end stage liver disease is weight reduction, antioxidants such as Vitamin C and E, and insulin sensitizing medications such as metformin, pioglitazone, and rosiglitazone. The goal is to reduce potential risk factors such as obesity, hyperlipidemia and poor diabetic control.

So, what can we do about this??? We as consumers need to be better educated at a young age on healthy food choices, especially since the obesity epidemic is not only an adult problem but it is now affecting our children. But in order to maintain healthy diets among all socioeconomic groups, healthy foods must be able to be obtained at affordable and convenient levels.

So, obesity is not just a social or medical issue, but now is a major public health problem that is affecting our lifespan, quality of life and is changing the economics of America. What we eat now will affect us later and our children, if we as a culture do not make a conscious decision to change the quality and quantity of the foods we eat...