

Human foie gras

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It is known that being overweight or obese are consequences of the excessive accumulation of fat in adipose tissue. What is less known, however, is that other essential organs such as the liver can also become overloaded with fat, causing serious health problems.

ENERGY WAREHOUSE

The **liver** is one of the most important organs in the human body due to its participation in a host of activities that are essential to life: blood coagulation, detoxification of foreign substances, synthesis and elimination of cholesterol and storage of several substances (vitamins, iron) are only a few of these.

The importance of the liver also stems from its primary function in managing our reserves of energy: when we eat, the surplus sugar is stored there in the form of glycogen, while during periods of fasting (through the night, for example), the liver releases part of this sugar to sustain the basic functions of the body. In contrast, when the quantity of sugar in the diet is too high, the liver is incapable of managing the sugar overload and must store this excess energy in the form of fat. This is also the principle which underlies the production of foie gras: when stuffed with an abundant source of sugar such as corn, the liver in these birds converts the sugar to fat, which has the effect of quintupling its volume and to give it the smooth texture so sought by gourmets. As with adipose tissue, the liver can then also become engorged with fat in response to the unbalanced metabolism associated with excess nutrition, particularly with a chronic overload of sugar.

HEPATIC STEATOSIS

The accumulation of excess fat in the liver, known as hepatic steatosis in the medical literature, is little-known collateral damage from the epidemic of obesity which currently affects the population of western nations. Yet it is estimated that no less than 25% of North Americans currently live with hepatic steatosis¹!

This is a very troubling situation because steatosis has enormous effects on liver function. When it is present in excess quantities, fat attracts to itself certain classes of immune cells, particularly macrophages, which produce significant levels of inflammatory factors to combat this “enemy”. The destruction of healthy tissue caused by this inflammation results in the production of fibrous tissue to replace the damage, producing “scars” which perturb the circulation of blood in the organ and can lead to cirrhosis or even to hepatocellular cancer.

At this point, liver function is irrevocably compromised and only a liver transplant can save the life of the affected person. It has been estimated elsewhere that hepatic steatosis caused by excessive food intake will become the principal cause of liver transplant during the next few years.



SAVING ONE'S LIVER

The liver is a very resilient organ and hepatic steatosis generally develops in an insidious fashion, without provoking any apparent symptoms. It is important to not wait until it is too late, and all people with significant excess weight should be aware that they are at risk of developing this disease.

Happily, like all complications which arise due to being overweight or obese, hepatic steatosis is a disease directly linked to lifestyle and, consequently, it is possible to prevent it. Avoiding abusive consumption of processed foods rich in fat and sugar is of course an essential prerequisite in this sense, but we must not ignore the disastrous impacts of alcohol and of certain pain relief medications (particularly acetaminophen) which can considerably worsen the loss of hepatic function associated with excess fat.

⁽¹⁾ Jamal HZ. Nonalcoholic fatty liver disease: America's greatest health risk of 2015? Sc American, published online February 9 2015.