

The Hypothalamus: The main organ responsible for obesity.

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For many years it was generally believed that the main cause for obesity was a glandular problem.

One of the suspected glands was the thyroid, because it was observed that hypothyroid patients showed, among other physical signs, moderate degrees of obesity. However, recent research demonstrates that thyroid tests are within normal limits in the vast majority of obese patients.

Adrenal cortical hormones also have been associated with obesity. However, hypercorticism appears in a few cases of obesity, and nearly always in the context of an abdominal or android type of body fat distribution.

Modifications of growth hormone (GH) secretion were observed in some obese patients. But it appears that this is a consequence rather than the cause of obesity.

Gonadal steroids do not appear to play a role in the genesis of obesity. Rather, they are related to the peripheral conversion of estrogen and testosterone, since this conversion is carried out mainly in adipose tissue.

One of the most valuable hypotheses on the genesis of obesity sustains that the basic metabolic disorder lies in the hypothalamic region.

The hypothalamus is the most studied and best understood of all the Central Nervous System components regulating food intake and energy metabolism.

It has long been recognized that it plays a key role in the mechanisms regulating food intake and fat accumulation.

Electrical or chemical destruction of the hypothalamic region results in hyperphagia and obesity, or decreased hunger, depending on the anatomic area where damage has taken place.

Interestingly, exogenous administered hCG accumulates in hypothalamic region, particularly in Ventromedial and Lateral Hypothalamus.

hCG acts at diencephalic level, modulating hypothalamic regulatory Centers, which are in turn responsible for the excessive fat accumulation seen in obesity.

hCG is not a steroid, but a naturally occurring peptide hormone. hCG is a glycoprotein composed of 237 amino acids.

Evidence suggests that hCG promotes lipolytic activity. hCG accelerates "not only the mobilization of fat from fat deposits, but also its utilization in peripheral tissues. hCG increased the metabolism of injected fat emulsions, suggesting the acceleration not only of fat oxidation, but also increased ketone production in the liver and its utilization in peripheral tissues"

The hCG protocol is an appropriate approach to the treatment of obesity that also includes a behavior modification program as well as pharmacological and dietetic aspects. When properly managed, the result is rapid weight loss and improved body shape.