Long Term Weight Loss - More Than Will Power?

Kent Holtorf

Medical Director, Holtorf Medical Group

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Obesity has become a major health epidemic and has dramatically increased over the last decades. Studies show that approximately one-third of the U.S. population is classified as obese and over two-thirds are significantly overweight. While the cause is multifactorial, studies are clear that almost all overweight individuals have metabolic and endocrinological dysfunction that is causing or contributing to their inability to lose weight.

It is not simply a problem that individuals are taking in more calories than they are consuming or lack of exercise or willpower, but rather it is a complex vicious-cycle of endocrinological and metabolic dysfunction. Contemporary medicine has failed to address these dysfunctions in overweight individuals and doctors and patients continue to believe that all cases are a matter of willpower and lifestyle. Thus, it is no surprise that obesity is reaching epidemic proportions.

Research is demonstrating that dysregulation of two key hormones may be a cause or major contributor of weight gain or inability to lose weight in the majority of overweight people. The first is leptin and the second is reverse T3. The exciting part is that doctors can now test for the presence of these physiologic barriers to weight loss and prescribe appropriate treatments with potentially dramatic results.

Leptin

The hormone leptin has been found to be a major regulator of body weight and metabolism. The body secretes leptin as weight is gained to signal the brain (specifically the hypo¬thalamus) that there are adequate energy (fat) stores. The hypothalamus should then stimulate metabolic processes that result in weight loss, including a reduction in hunger, an increased satiety with eating, an increase in resting metabolism and an increase in lipolysis (fat breakdown). New research has found that this leptin signaling is dysfunctional in the majority of people who have difficultly losing weight or are unable to lose weight.

The problem is not in the production of leptin, but rather, studies show that the ma¬jority of overweight individuals who are having difficulty losing weight have a leptin resistance, where the leptin is unable to produce its normal effects to stimulate weight loss. This leptin resistance is sensed as starvation, so multiple mechanisms are activated to increase fat stores, rather than burn excess fat stores. Leptin resistance also stimulates the formation of reverse T3, which blocks the effects of thyroid hormone on metabolism (discussed below).

Testing: A leptin level can be ordered by your physician. If greater than 10, it demonstrates there is a degree of leptin resistance contributing to an inability to lose weight. The higher the number the more significant the leptin resistance.

Treatment: There are currently two medications are shown to be able to treat leptin resistance and can result in significant weight loss. One is Symlin and the other is Byetta. These are currently approved for the treatment of diabetes but can be prescribed "off-label" for the treatment of leptin resistance. They are showing significant promise in the non-diabetic population with the ability to produce dramatic weight loss in a large percentage of overweight patients. The amount of weight loss varies according to the study design, but a significant percent of patients are experiencing weight loss, despite little or no change in diet.

The leptin resistance is not permanent and is shown to improve with weight loss so diet and exercise can be beneficial. The "catch-22" is, however, that it is difficult to lose weight with leptin resistance. High carbohydrate

diets and in particular high-fructose corn syrup is shown to significantly increase leptin resistance and is a likely mechanism that high fructose corn syrup is associated with obesity, especially in children. Avoidance of high fructose corn syrup and carbohydrates would be recommended for those with high leptin levels.

Reverse T3

It is well known that thyroid hormones regulate metabolism and that low thyroid hormone production (hypothyroidism) causes low metabolism, but it has only recently been understood that thyroid production can be fine but there can a problem of activation of the hormones inside the cells that can be a major cause of low metabolism.

The thyroid gland secretes an inactive thyroid hormone called thyroxine, also known as T4. This is regulated by thyroid stimulation hormone (TSH) produced by the brain (specifically the pituitary). Normally, the inactive T4 is converted inside the cell to the active thyroid hormone called triiodothyronine (also known as T3). Most doctors will check TSH and T4 levels to see if thyroid levels are normal.

The studies are showing that it is not the production of thyroid that is the problem, but rather it is problem inside the cell that the inactive T4 is not converted to T3 but rather to a mirror image of T3 called reverse T3. The reverse T3 has the opposite effect of T3, blocking the effects of T3 and lowering rather than increasing metabolism.

It is an evolutionary fall-back that was useful in times of famine or in hibernating animals to lower metabolism. Studies are showing that stress and dieting (especially yo-yo dieting) can set this hormone into action as well as chronic illness such as diabetes, chronic fatigue syndrome and fibromyalgia.

The production of reverse T3 is found to be a major method by which the body 'tries" to regain any lost weight with dieting. As soon as the body senses a reduction in calories, the production of reverse T3 is stimulated to lower metabolism. With chronic dieting or stress, the body often stays in this "starvation mode" with elevated levels of reverse T3 and decreased levels of T3, which is a major reason for the regaining of lost weight with dieting as well being the mechanism behind stress induced weight gain (it is not due to increased cortisol).

Testing: There has been a long held belief by endocrinologists and other physicians that adequate thyroid levels can be determined by testing the TSH and T4 levels. Studies are showing that such standard testing will miss 80% of thyroid dysfunction so most endocrinologists and other doctors will tell their patients that their thyroid is fine based on this usual testing. The doctors must run a free T3/reverse T3 ratio. Generally, a healthy person will have a ratio greater than 2 so a person with a ratio less than 2 should also be considered a candidate for thyroid supplementation. Many endocrinologist and physicians are not yet aware of the significance or ability to run this ratio so it may take some searching.

Treatment: The standard treatment of hypothyroidism involves the supplementation with T4, including Synthroid and Levoxyl. These are not effective to remedy such a situation because the problem is not the amount of T4 but rather the excess conversion of T4 to reverse T3, blocking effects of the active T3. One must bypass the abnormality by supplementing with physiologic doses of T3, not T4 (preferably timed released T3). It is not appropriate to give thyroid hormone for weight loss, but rather to correct an abnormality diagnosed by appropriate blood tests.

In summary, emerging evidence demonstrates that a significant number of overweight patients have a metabolic problem rather than a problem of willpower or lifestyle. Identification and correction of these metabolic abnormalities, including leptin resistance and cellular thyroid dysfunction, can result in dramatic long term successful weight loss.

Reference website: http://www.huffingtonpost.com/kent-holtorf/long-term-weight-loss---m_b_192933.html