Dynamic Chiropractic

NUTRITION / DETOXIFICATION

Cutting Edge Compounds -- Engineered Foods

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Nutrient partitioning for metabolic up regulation may radically affect the way we attack the problem of losing body fat and gaining lean muscle mass. In mammals, dietary carbon is either burned (oxidized for energy) or stored. Sites for storage are either fat or muscle. It takes more energy to store carbon in muscle than fat. The body takes the low road and stores the carbon molecules in fat. Some of us have more efficient systems than others -- that is, gain body fat without consuming excess calories. I know what you are thinking. My patients who gain weight without overeating do it because (1) a high percentage of their calories come from fat; and (2) they don't exercise regularly. But you also have patients (nonbulimics with normal thyroids) who eat whatever they want, don't exercise, and stay lean. We define these people as having fast metabolisms. If asked to explain on the chemical level how these fat metabolisms work, we usually generalized with statements like "Oh, they just have an efficient system and good genetics" but really can't explain why these people are lucky.

Nutrient partitioning for metabolic up or down regulation took root from the fact that some drugs cause us to gain body fat without any dietary or exercise changes. Other drugs (beta adrenergicagonists) have increased lean body weight in animals without any diet or activity changes. Most of these drugs are used to treat asthma and have a host of other side effects when a healthy person takes them at levels to up regulate.

The Theory

There are currently studies being conducted on how a protein species (specific combinations of amino acids with cofactors) can regulate carbon storage. That is, repartition calories slated for storage to muscle instead of fat. Consumption of this engineered food (needless to say, a closely guarded secret) at levels of 500 to 1000 calories a day could theoretically up regulate the system toward muscle protein storage (these calories are substituted, not added to normal daily intake). With requirements for energy remaining constant, the body would have to turn to fat stores or consume additional calories to make up the difference. Or, as Dr. Scott Connelly (the physician who originated this theory) states, "Protein accretion in muscle would occur at the expense of fat tissue storage."[1] To make this work even better, it is recommended that one exercise the muscles with weight lifting or similar activities. For example, preliminary data demonstrates that the energy required to move 10 calories headed for fat storage to protein storage is 4 calories. According to Connelly, muscle tissue has carbon-trapping properties. Thus, when our energy requirements increase, the most accessible source of carbon atoms is body fat. Simply stated, we are storing less fat and burning more fat, both of which require additional energy and help raise our basal metabolic rates.

As ongoing research on this theory becomes available, I will make sure to keep you informed.

Reference

1. The Connelly Report. January 1994. Vol 1, No 1. Myosystems, Inc., Golden, Colorado.

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