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HYPOGLYCEMIA

Source: "What Your Doctor May Not Tell You About Fibromyalgia" (Grand Central 2012)

The word hypoglycemia simply means low blood sugar. It's often used to suggest a disease but it is actually only one symptom of a syndrome with many complaints. This complex would be better defined by the term *carbohydrate intolerance*. It is expressed by the body's inability to use certain carbohydrate loads effectively without adverse consequences.

When consumed, sugar and complex carbohydrates evoke a rise in blood sugar that triggers insulin release from the pancreas. This hormone facilitates immediate carbohydrate utilization or storage in various parts of the body. The liver converts excesses to fatty acids that are packaged into triglycerides and transported into fat cells for storage. In hypoglycemics, insulin release is either excessive, or the cutoff is inadequate, or insufficiently terminated by counter regulatory hormones. A system-wide disturbance is created that results in one of the endocrine fatigue syndromes we call hypoglycemia.

The standard for diagnosis has been the five-hour glucose tolerance test (GTT). This was designed to document the rise and gradual fall of blood sugar after carbohydrate consumption. A sugar solution is administered and blood samples are drawn at various intervals. Generally used to diagnose diabetes, the GTT has not been very efficient in detecting the sudden fall of blood sugar levels that characterize hypoglycemia. Timing is crucial, and with predetermined schedule for blood draws, the lowest level may be missed. Another problem was seen in a study done in 1994 by Genter and Ipp on a group of young, healthy people who had no symptoms of hypoglycemia.¹ Blood samples were drawn every ten minutes to measure the amount and time-release of various hormones that counteract insulin to prevent an excessive drop in blood sugar. One-half of the subjects developed acute symptoms of hypoglycemia near the peak adrenaline release coinciding with their lowest glucose levels. However, in some of them, the symptoms occurred at glucose levels that are considered normal. This is how we learned that each person has a personal alarm system, an individual blood sugar level at which the brain perceives danger and releases adrenaline (epinephrine). For these reasons, listening to a patient's symptoms has been more accurate in making the diagnosis than blood testing.

The symptoms of hypoglycemia (a term we continue to use) are many. First are the chronic symptoms that are experienced even when the blood sugar is normal. They consist of fatigue, irritability, nervousness, depression, insomnia, flushing, impaired memory and concentration. Anxieties are common as are frontal or bitemporal headaches, dizziness and faintness. There is often blurring of vision, nasal congestion, ringing in the ears, numbness and tingling of the hands, feet or face and sometimes leg or foot cramps. Excessive gas, abdominal cramps, loose stools or diarrhea are frequent.

The acute symptoms are frightening and occur at highly variable glucose levels, but usually three or four hours after eating. The release of adrenaline, more than sufficient for correcting the fallen blood or brain sugar, induces these distressing twenty-to-thirty minute events. They include hand or internal shaking accompanied by sweating, especially with hunger. Heart irregularities or pounding and severe anxiety completes the picture. Feeling faint is common and actual syncope may occur. Nocturnal attacks are often preceded by nightmares and cause severe sleep disturbance resulting in daytime somnolence. The more intense bouts are labeled panic attacks.

Only a perfect diet will control hypoglycemia. It is not the food one adds but what one removes that assures recovery. Patients must totally avoid caloric sugars including corn syrup, molasses, honey, sucrose, glucose, dextrose or maltose. Heavy starches such as potatoes, white rice and pastas are also forbidden. We allow one piece of fruit in a four hour period but no juices since they contain excess fructose.

All carbohydrates are not created equal as can be seen by our list. Certain carbohydrates such as sugar-free breads are allowed, but intake is limited to one slice three times per day. You must follow the diet as written with no substitutions: for example puffed rice is allowed but not white rice. Caffeine is not allowed since it prolongs the action of insulin.

Improvement begins in about seven to ten days of beginning a perfect diet. Considerable relief is afforded within one month. Symptoms totally clear within two months but only if the diet has been carefully followed. During the first ten days of adherence to the diet, headaches from caffeine withdrawal and fatigue induced by changing the body's basic sources of fuel are common and in some patients can be fairly intense.

Consider the entire dietary process as if one were building a checking account. First, deposits must be made to obtain sufficient funds. Only at this point should one begin writing checks but with the understanding that balances are lowered with each one written. Similarly, the hypoglycemia diet builds energy reserves to the highest amount attainable for a given individual. Only then can carbohydrate experimentation begin. Each "cheat" draws on the credit line. Since no physician or dietician can predict the final baseline diet, this hunt and peck system is necessary for each patient. The first warning of an excess may be spotted with the reoccurrence of any of the above hypoglycemia symptoms. A stricter diet may again be required to rebuild credit, or to meet demands for added energy at times of emotional or physical stress such as during the week premenstrually.

Some hypoglycemics also suffer from fibromyalgia. Symptoms overlap greatly but not the *acute* ones listed above. Fibromyalgia is a generalized metabolic disturbance that includes contracted, working muscles, ligaments and tendons, which constantly burn fuel. Fatigued patients with fibromyalgia may attempt to create energy by yielding to their carbohydrate cravings. The resulting repetitive insulin bursts in predisposed patients can tip them into hypoglycemia. Patients with both conditions are among our sickest.

Dietary Restrictions The Hypoglycemic Must Follow:

HAVE NONE OF THESE:

Alcohol (*for one month*)

Sugar in any form, including soft drinks

Fruit juices and dried fruits

Baked beans

Black-eyed peas (cowpeas)

Garbanzo beans (chickpeas)

Refried beans

Lentils

Lima beans

Starch

Potatoes

Corn (limit popcorn to one cup)

Bananas

Barley

Rice

Pasta

Burritos (flour tortilla)

Tamales

Caffeine, Dextrose, Maltose, Sucrose, Glucose, Honey, Corn

Syrup, Rice Syrup, Cane Syrup, Agave, Molasses, or

Fructose.

No compromise is allowed with the diet for the carbohydrate intolerance syndrome. One must eat correctly or symptoms continue. The reward of well-being is exhilarating when contrasted with the disabling symptoms of hypoglycemia. It is yours to control.

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Reference:

¹Genter, P. and Ipp, E. Metabolism, Vol. 43, No. 1 (January) 1994, pp 98-103