

MEDICAL FILES

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More than two decades ago, the main goal in treating diabetic patients was to bring the blood sugar down to normal levels. It was called then the gluco-centric or sugar-centered approach.

But experts in diabetes treatment realized such an approach was not prolonging the lives of diabetics. Ironically, some antidiabetic drugs seemed to be directly or indirectly causing more complications like heart attack, stroke, heart failure and even sudden death with aggressive control of the blood sugar.

In an expert panel discussion I chaired sometime ago with Dr. Augusto Litonjua, considered the father of the field of endocrinology in the Philippines, as one of the resource persons, it was stressed that physicians need to reexamine their current goals and treatments to prevent serious, long-term complications, some of which may be related to inappropriate aggressiveness in lowering blood sugar to near-normal levels.

Instead of a gluco-centric approach, a patient-centered approach is now advocated.

Severe hypoglycemia

Aggressive lowering of the blood sugar, particularly in elderly and frail diabetic patients, can cause severe hypoglycemia or lowering of the blood sugar, particularly at night.

Excessively low blood sugar levels make the heart beat faster, and may cause it to develop potentially fatal irregular heartbeats or arrhythmia.

Hence, for these high-risk patients, it's better to target slightly higher blood sugar levels and prescribe medicines that are less prone to cause hypoglycemia.

Symptoms of hypoglycemia include palpitations or fast heartbeat, profuse perspiration, feeling of faintness and giddiness. In more severe instances, one may become disoriented and develop seizures.

Diagnosing type 2 diabetes mellitus (T2DM) accurately and monitoring blood sugar regularly are also important to prevent long-term complications.

Hba1c

Blood sugar determination, whether fasting (before breakfast after an overnight fast) or post-prandial (after meals), is usually done to diagnose T2DM, but the glycated hemoglobin (Hba1c) test is likewise useful in diagnosing diabetes and monitoring the response to treatment. The Hba1c reflects the average blood sugar level during the past three months.

What exactly is the Hba1c? When the blood sugar is high, the glucose not used by the body and no longer stored in the various tissues of the body stays in the blood and attaches to the red blood cells, which normally has a lifespan of three to four months. The Hba1c test, therefore, measures the amount of sugar (glucose) attached to the red blood cells.

The Hba1c result, expressed in percent, corresponds to an estimated average glucose, or EAG, indicating the average blood sugar levels in the previous three months. The EAG is indicated in the same units (mg/dl) as the blood sugar.

For example, an Hba1c level of 6 percent corresponds to an EAG of 126 mg/ dl, which theoretically is the upper limit of normal. But in general, for most diabetics under treatment, the Hba1c goal is between 6.5 and 7 percent, corresponding to an EAG of 140 to 154 mg/dl.

Individualized

Dr. Litonjua explained that this Hba1c goal (6.5 to 7 percent) should not be a rigid one, and should be individualized depending on the age, presence of other illnesses, and overall condition of the patient.

In the elderly, for example, the physician should not be very strict in trying to achieve a near normal blood sugar and Hba1c levels. They may have a higher risk of falling, fainting, getting hurt and suffering from fractures with low levels of blood sugar (hypoglycemia).

For elderly and frail diabetics, an Hba1c target of less than 8.5 percent, corresponding to an EAG of less than 197 mg/dl, should be good enough. For young, otherwise healthy diabetics, an Hba1c of around 6.5 percent or even lower would be ideal, provided there are no episodes of hypoglycemia.

Aside from arrhythmia, hypoglycemic episodes can cause a deficiency in oxygen in the heart muscles (myocardial ischemia) which may lead to heart attack and even sudden death. So, the risk of aggressive blood sugar control far outweighs the potential benefit of controlling the blood sugar to near normal levels.

This has been shown by several landmark clinical trials which showed paradoxical findings in high-risk diabetics.