

Winning the Battle, but Losing the War



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A cynical oncologist once told me that his goal was to help patients to live long enough to die of a heart attack. A cardiologist who was there retorted that he was aiming to let his patients live long enough to get hit by a bus. Not the most compassionate perspectives, perhaps, but they do illustrate a tendency among specialists to focus exclusively on their own area of expertise. This is not altogether unreasonable--each sub-specialty has its own enormous knowledge base to master, and no one wants to dispense advice on a subject that they're not qualified in. I know for sure, as an endocrinologist, that no one wants my opinion on treating plantar warts or hairy cell leukemia. Diabetes presents a special situation, though, because the complications of this disease can affect the eyes, nerves, kidneys, heart, and blood vessels. This necessitates that physicians treating diabetes must at least be conversant in all of these systems, so that they can coordinate care with the nephrologists, ophthalmologists, neurologists, cardiologists, and other specialists that are often intimately involved in caring for our patients. Having said that, there is still an unfortunate tendency among generalists and endocrinologists alike to look at diabetes care as not much more than reducing blood sugar levels.

I am prompted to write about this subject (which I have touched upon in previous editions of *Viewpoint*) by a recent article in the *American Journal of Medicine*. These authors looked at six hundred patients with type 2 diabetes being seen at the Massachusetts General Hospital. About a quarter of these people were followed at the Diabetes Center, while the rest were seen by general internists. (Author's disclaimer: Until Autumn, 2001, I worked in the Diabetes Center of the MGH, although I was not a participant in the study under discussion). The charts of these 600 patients were examined over an 18-month period to see who was being tested for blood sugar, blood pressure, and cholesterol levels. Furthermore, note was made of how many people with abnormal values were being treated with drugs, and how many of those had their doses increased if things did not improve as expected.

The good news is that almost all patients had hemoglobin A1c levels checked (92%). Of those patients with hemoglobin A1c levels above 7%, almost all (92%) were treated with glucose-lowering drugs. The bad news? Even though 99% of patients had blood pressure measurements taken, only 78% of those with systolic pressures above 130 were given appropriate medications. The numbers were significantly worse for cholesterol. Only 76% of patients with type 2 diabetes had cholesterol levels checked, and of those patients with higher than average levels, only 38% were treated appropriately with medications. Worse still, of those who were treated with medications for high cholesterol levels, but whose dose was insufficient to bring levels to normal, only 13% had their dosage increased. And perhaps the most disappointing finding is that while patients who were seen at the Diabetes Center were treated very aggressively with respect to blood sugar control, they were not given any better care with respect to blood pressure or cholesterol than were patients seen by generalists.

Even taking into account the fact that some patients may have been on a trial of diet and exercise before receiving medication, these numbers are not encouraging. In general, academic health centers like the Mass. General are among the first to get out the word on aggressive new treatment regimens, so that we are left assuming that the typical situation in most clinics is actually worse than this.

Why should we care about this? Because most patients with type 2 diabetes will die as a direct result of cardiovascular disease, specifically heart attacks and stroke. And while reducing blood sugar levels is absolutely critical to prevent the eye, nerve, and kidney damage that can attend uncontrolled diabetes, there is no direct evidence that better blood sugar control can stop the progression of diabetic vascular disease. High blood pressure and abnormal cholesterol levels are often seen as fellow travelers with diabetes, and their negative effects on atherosclerosis are magnified by diabetes.

If you are a physician treating patients with type 2 diabetes, or a patient affected by this condition, here's what you should be shooting for:

1. Hemoglobin A1c level = 7%
2. Blood pressure = 130/85
3. Total cholesterol < 200 mg/dL, and LDL < 100 (if you have known coronary artery disease), or <130 (without known coronary disease).
4. Unless contraindicated because of age < 21 or allergy to aspirin, you should be taking anywhere from 81-325 mg of aspirin daily.

While these guidelines are simple enough, this paper shows that they are obviously difficult to meet. In part that's because in some patients, it can be difficult to get high blood pressure, glucose, and cholesterol levels down to acceptable levels even with drug therapy. A much bigger issue, however, is that patients and doctors are not always motivated to treat problems before they happen. Preventative care is never as sexy as dealing with disease in real time. I get lots of questions from patients about inhaled insulin and stem cell therapy, but not one about aspirin, or cholesterol reduction, or any of a thousand other simple things that can be done to reduce the burden of this disease. We can do an awful lot of good by dealing with diabetic complications before they occur, and there are few excuses for not making that a priority

Reference:

Grant RW, Cagliero E, Murphy-Sheehy P, Singer DE, Nathan DM, Meigs JB. Comparison of hyperglycemia, hypertension, and hypercholesterolemia management in patients with type 2 diabetes. *American Journal of J Medicine* 2002 Jun 1;112(8):603-9.

Erratum: In the last Feature I mentioned that exendin-4 is the gila monster's version of GLP-1. Actually, gila monster lizards have two glucagon-like genes, one of which encodes pro-glucagon and GLP-1, while the other encodes exendin-4. I apologize for the error. Thanks to Dr. Alain Baron of Amylin Pharmaceuticals for bringing this to my attention.