Editor's Note

Cardiovascular Diabetology — Two Years Later

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Two years ago, in an editorial entitled “Cardiovascular Diabetology,” I indicated that cardiologists know a little bit about diabetes and endocrinologists know a little bit about cardiovascular medicine. Since that time, diabetes has blossomed into an incredibly hot topic.

Many believe that the number of diabetics worldwide will triple over the next 25 years. As a result, we the cardiovascular community will face an increasing number of patients with cardiovascular disease and diabetes. The situation will not get any easier as the patient population ages and rates of obesity increase in all societies. Those knowledgeable about this subject suggest that because of the increasing number of obese children, diabetes will be an ever increasing problem in the future.

In the United States, somewhere in the neighborhood of 60% of adult men and 40–50% of adult women are considered overweight or obese. Obesity is not limited to the United States. It is happening globally, perhaps at an even more startling rate. For example, in Eastern Europe, the fat content of the diet is extremely high and this, coupled with the fact that fewer people are doing manual work, and that people continue to smoke, makes the situation even more alarming.

Diabetes and Risk in Cardiac Patients

In patients presenting with unstable coronary syndromes, it is well known that outcomes in diabetic patients are poorer than in those without diabetes. What is not known is whether tight control of that diabetic patient along with other risk factor modifications will decrease the number of adverse outcomes in this population.

There is also epidemiologic evidence that heart failure following a myocardial infarction occurs more frequently in diabetic than in nondiabetic patients. Again, it is not known whether strict management of the diabetes in these patients will improve outcome.

Diabetic Management

Now that diabetes has become a risk factor equivalent to the presence of coronary artery disease, the cardiovascular community needs to be more educated in the intricacies of diabetic management. Cardiologists in general understand and know how to manage the usual risk factors for coronary heart disease, that is, hypertension, hyperlipidemia, smoking, and so forth, but many of us feel somewhat uneasy with the diabetic patient who has all of these other risk factors.

Therefore, while my previous editorial focused on the aggressive management of the cardiovascular problems that are found in diabetic patients, the focus of this editorial is principally on diabetic management.

Prevention of Diabetes

Before reviewing management strategies for the diabetic patient, it is important to point out to all physicians, including cardiologists, that efforts to prevent the development of type II diabetes are needed. A simple measurement of height and weight, and thus an assessment of body mass index (BMI) made during an office visit can identify the patient who might be prone to develop this condition. If the BMI is > 25, the patient is overweight. If the BMI is > 30, the patient is obese. These patients are prone to develop diabetes mellitus. A second simple measurement—that of waist circumference—also made during an office visit may awaken patients to the fact that they may be candidates for diabetes. Men and women whose waist circumferences are > 40 inches and 35 inches, respectively, may be candidates for the development of the metabolic syndrome that includes type II diabetes, insulin resistance, hypertension, and hyperlipidemia.

Although it seems that it may be easy to manage diabetic patients with the drugs currently available, cardiologists need to recognize that they must pay closer attention to their patients and see them more frequently than every six months. Diet is important, as are drugs and whatever else it takes to maintain blood glucose control monitored by hemoglobin A1C. Perhaps the development of “cardiovascular diabetic clinics” would solve some of these problems since they could be directed by nurse practitioners or physicians’ assistants who could monitor the hemoglobin A1C frequently and make adjustments in diet or drugs as necessary.

Drugs to Treat Diabetes

There are four major classes of medications used in the treatment of type II diabetes. The first is the group that stimulates insulin from the beta cells of the pancreas. These are known as sulfonyl ureas and include glyburide and glipizide.
The second group includes those that inhibit hepatic glucose production. These are classified as biguanides. Metformin is the representative example. The only concern with metformin is that patients with renal disease may develop lactic acidosis, so this is relatively contraindicated in that group.

The third group increases insulin receptor activity. These drugs are classified as thiazolidinediones. Pioglitazone and rosiglitazone are representative examples.

The fourth group of drugs prevents intestinal absorption of carbohydrates from the gastrointestinal tract. These are called alpha-glucosidase inhibitors and acarbose is the representative example.

Nonendocrinologists—that is, cardiologists—using these drugs must be familiar with the side effects, drug interactions, and contraindications to using them. Fortunately, they are few. Ryden and Malmberg have made the point that “the key to improved care for the diabetic population is increased cooperation between the diabetologists, who manage diabetic patients before the development of cardiovascular complications, and cardiologists, who come in at a more advanced stage of the disease.” I share their recommendation.

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References