

Introduction

Diabetes mellitus is an extremely common disease affecting almost 16 million Americans. As a disease with many concomitant disorders the impact on patients and the health care system is enormous. Fortunately, our understanding of the etiology of this disease and treatment modalities continues to progress. This issue of *clinical CORNERSTONE*[®] presents an overview of our current knowledge about this devastating disease and addresses the various treatment modalities and options available to both physicians and patients.

In the opening article, Massimo Pietropaolo, MD, and I discuss the pathogenesis of both type 1 and type 2 diabetes. Understanding the various aspects of the disease is an essential component to managing patients. Since type 1 diabetes is an autoimmune disease in genetically predisposed individuals, physicians are often required to counsel patients on the genetics of the disease as well as referring patients for enrollment in prevention trials and eventually early intervention trials using islet cell transplantation. Type 2 diabetes, on the other hand, is a disease caused by dual defects: insulin resistance and beta cell dysfunction. Understanding the interplay of these pathogenetic mechanisms has enabled us to develop new strategies for the prevention or delay of the disease process in susceptible individuals.

James R. Sowers, MD, FACP, discusses the cardiometabolic syndrome, which is commonly seen in obese individuals with or without concomitant type 2 diabetes. The hallmark is visceral obesity and associated insulin resistance and hyperinsulinemia. The syndrome is also associated with essential hypertension, dyslipidemia, and hypercoagulability, all of which contribute to increased risk of cardiovascular disease morbidity and mortality. Of particular importance to the primary care practitioner is the realization that the concomitant conditions, in addition to hyperglycemia, must be treated to reduce complications of diabetes.

Robert E. Ratner, MD, presents the overwhelming evidence available from multiple clinical and interventional trials that the concomitant conditions associated with type 2 diabetes, such as hypertension and hyperlipidemia, also include vascular complications. These trials demonstrate that reducing blood pressure and blood cholesterol and triglyceride levels significantly decreases the rate of cardiovascular disease. Dr. Ratner also discusses the high financial burden of this disease on the health care system.

In my article on the therapy for type 2 diabetes, I discuss various aspects of disease management. Diet and exercise are not only important in preventing or delaying the onset of this disorder, they can also reduce insulin resistance, thereby lowering the impact of hypertension and hyperlipidemia and enabling pharmacologic agents to work appropriately. The algorithm I present is one that is commonly used in the United States today, but individualized therapy is the order of the day—the primary care physician and specialist must choose the appropriate agent for each patient.

In the closing article, Julio Rosenstock, MD, discusses insulin therapy for both type 1 and type 2 patients. Using recombinant DNA technology, new insulins have been brought to the marketplace. Type 1 patients can be well controlled by administering a mixture of long-acting and very short-acting insulins. Type 2 patients who require insulin in addition to oral agents show improvement in their blood glucose control by taking long-acting insulins in the evening (neutral protamine Hagedorn) or bedtime (glargine). The authors and I believe that primary care physicians will find this issue a valuable resource for managing patients with diabetes.

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