

# Introduction

As the prevalence of diabetes continues to increase in the United States and around the world,<sup>1-4</sup> increasing awareness of the role of insulin therapy as a key component in the care of individuals with type 2 diabetes is warranted. In particular, treatment strategies that focus primarily on lifestyle measures (ie, diet and exercise) and long-term therapy with oral antidiabetes agents are changing. Researchers have found that early introduction of insulin therapy, when oral antidiabetes agents alone do not achieve glycosylated hemoglobin (A1C) targets, can help patients with type 2 diabetes achieve and maintain glycemic control.<sup>5-7</sup> This new paradigm—early addition of insulin to oral antidiabetes agents to achieve and maintain tight glycemic control—is now regarded as an effective treatment strategy to manage type 2 diabetes and prevent or delay the development of serious diabetes-related complications. This publication presents 5 articles that focus on the clinical implications of recent studies in the care of patients with diabetes.

In the first article, I discuss the identification and treatment of prediabetes, a condition characterized by glucose levels that are higher than normal but not high enough for a diagnosis of type 2 diabetes. Serious attention to the need for lifestyle interventions and pharmacotherapy may help prevent the progression from prediabetes to overt type 2 diabetes in these patients. Interventions aimed at achieving glycemic control early in the disease process may further delay or prevent disease progression and associated complications.

In the second article, Derek LeRoith, MD, PhD, highlights the findings of several major studies in diabetes care on patient outcomes using various pharmacologic therapies. This article not only discusses key findings in relevant landmark trials reported in the past decade, but also introduces a number of ongoing studies designed to evaluate the effects of insulin therapy in reducing cardiovascular morbidity and the relationship between A1C levels and cardiovascular risk. Data on the development of newer insulin analogues with action profiles that provide

more consistent glycemic control over a 24-hour period are also presented.

The third article by David G. Marrero, PhD, identifies the need to overcome the barriers of patients with type 2 diabetes and their physicians to initiating insulin therapy. Patient barriers include fear of needles or injections; fear of hypoglycemia and insulin-related weight gain; the perception of insulin therapy as a personal failure; and lack of confidence in the efficacy of insulin therapy. Patients and physicians both have concerns about the complexity of insulin therapy and patients' ability to adhere to the treatment regimen. Specific suggestions are made on how these barriers can be addressed through effective patient education and counseling.

The fourth article by Susan S. Braithwaite, MD, and colleagues outlines how a multidisciplinary approach to the development of effective policies and protocols can help address the problem of hyperglycemia in hospitalized patients. Special attention is given to establishing a protocol for IV insulin infusion, developing a comprehensive order template for SC insulin management, and facilitating a self-management program for patients with diabetes during hospitalization.

The last article by Dina E. Green, MD, discusses several novel classes of medications to treat the underlying  $\beta$ -cell dysfunction that ultimately leads to impaired glucose tolerance and type 2 diabetes. These medications recognize the roles of hormones secreted by the gut in the maintenance of blood glucose homeostasis and include the dipeptidyl-peptidase-IV inhibitors and the glucagon-like peptide-1 agonists.

All of these articles provide useful information to help clinicians understand the importance of insulin therapy in determining treatment strategies for their patients with type 2 diabetes. Achieving and maintaining glycemic control day to day, as well as during a hospital stay, are top priorities to help patients with diabetes minimize the risk of developing diabetes-related complications.

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