The Incretin Concept: A Case-study Approach to Glycemic Control in Type 2 Diabetes

Program Overview

The prevalence of type 2 diabetes has increased dramatically in the United States over the past several decades. Many patients with type 2 diabetes do not achieve goals for glycemic control recommended by the American Diabetes Association and the American Association of Clinical Endocrinologists. Clinical research to address this problem has led to a greater understanding of the role of incretins in postprandial glycemic control in healthy persons and patients with type 2 diabetes. Incretins are gastrointestinal hormones that enhance the secretion of insulin after the ingestion of food, thereby minimizing postprandial hyperglycemia. The incretin effect in response to meals is diminished in patients with type 2 diabetes, possibly because of reduced incretin secretion or decreased responsiveness of pancreatic beta cells to incretins. Exenatide is an analog of the incretin glucagon-like peptide-1 (GLP-1) that was introduced in 2005. It is rapidly inactivated by dipeptidyl-peptidase-4 (DPP-4), a widely expressed enzyme. Inhibitors of the DPP-4 enzyme have been developed to increase plasma GLP-1 levels.

This symposium will discuss trends in the prevalence of type 2 diabetes and strategies to achieve goals for glycemic control. The role of incretins in postprandial glycemic control in healthy persons and the incretin abnormalities that contribute to type 2 diabetes will be explained. The mechanisms of action, routes of administration, efficacy, and safety of currently available and investigational incretin analogs and DPP-4 enzyme inhibitors in patients with type 2 diabetes will be described. The role of incretin analogs and DPP-4 inhibitors in managing type 2 diabetes will be illustrated through a patient case study. Audience participation was encouraged during the live CE program.