

PREFACE

This volume of the *Contemporary Endocrinology* series focuses on type 1 diabetes mellitus, an entity whose incidence is increasing worldwide, particularly in children aged less than five. Affected individuals carry a life-long burden of dependence on daily insulin administration that provides imperfect metabolic control with significant acute consequences of hypoglycemia and more insidious micro- and macrovascular complications linked to chronic hyperglycemia. Despite intensive research, the disease remains enigmatic. Although evidence for an autoimmune basis is compelling, not all cases of type 1 diabetes have autoimmune markers, and not all autoimmune forms have the same genetic basis. Nevertheless, as recently demonstrated in the parenteral arm of the Diabetes Prevention Trial-1 (DPT-1), a combination of immune markers and consistently diminished first-phase insulin response to glucose can reliably predict the likelihood of developing clinical diabetes. However, current intervention with parenteral insulin is not effective in preventing progression at this stage. A reliably effective intervention would spur population-wide surveys for at-risk individuals, now a practical possibility. Cure by transplantation of the pancreas or islets is showing great promise as better means become available to modulate immunity and prevent rejection.

In parallel with these wide-ranging and fundamental basic and clinical investigations, there is an ongoing transfer of technological innovations in designer insulins, insulin delivery systems, and the monitoring of glucose. These innovations permit refinement in managing diabetes mellitus under various circumstances, all aimed at improving the quality of life and preventing or delaying vascular complications.

The aim of *Type 1 Diabetes: Etiology and Treatment* is to fuse these contemporary investigational and practical issues and make them available to those involved in the research and practice of type 1 diabetes. This volume is not intended to be a comprehensive or exhaustive treatise on the subject of diabetes. As in many such endeavors, the pace of discovery often exceeds the ability to incorporate the latest knowledge into printed text. Nevertheless, we believe that this volume presents contemporary information on contemporary issues by recognized authorities in the field. We hope it stimulates thought and action in the research and care of patients with type 1 diabetes mellitus.

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Type 1 Diabetes

Etiology and Treatment

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