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50 figures, 16 in color, and 22 tables, 2005
Contents

IX Preface

1 Epidemiology of Pregestational and Gestational Diabetes
   Pavlić-Renar, I.; Metelko, Z. (Zagreb)

9 Fuel-Mediated ‘Functional Teratogenesis’ and Primary Prevention
   Plagemann, A. (Berlin)

18 Endocrine Changes in Diabetic Pregnancy
   Kautzky-Willer, A.; Bancher-Todesca, D. (Vienna)

34 Metabolic Changes in Diabetic Pregnancy
   Herrera, E. (Madrid)

46 Leptin in the Diabetic Pregnancy
   Hauguel-de Mouzon, S. (Cleveland, Ohio); Lepereq, J. (Paris);
   Catalano, P. (Cleveland, Ohio)

58 Maternal Diabetes and Embryonic Development
   De Hertogh, R. (Brussels)

72 Normal and Abnormal Fetal Growth
   Cetin, I.; Radaelli, T. (Milan)

83 Effect of Nutrition on Fetal Development: A View on the
   Pancreatic β-Cells
   Blondeau, B.; Breact, B. (Paris)

94 The Human Placenta in Diabetes
   Desoye, G. (Graz); Kaufmann, P. (Aachen)
110 Vasculogenesis and Angiogenesis in the Diabetic Placenta  
Leach, L.; Mayhew, T.M. (Nottingham)

127 Morphological Findings in Infants and Placentas of Diabetic Mothers  
Kos, M. (Zagreb); Vogel, M. (Berlin)

144 Principles of Evidence-Based Medicine.  
The Lesson for Diabetic Pregnancy  
Pieber, T.R. (Graz)

153 The Graz Approach to Diabetes in Pregnancy  
Weiss, P.A.M.; Desoye, G. (Graz)

161 Clinical Management of Pregnancies Complicated with Type 1/Type 2  
Diabetes mellitus  
Djelmiš, J. (Zagreb)

174 Nutritional Management of Diabetes in Pregnancy  
Dornhorst, A.; Frost, G. (London)

195 Diabetes-Related Antibodies and Pregnancy  
Corcoy, R.; Mauricio, D.; de Leiva, A. (Barcelona)

206 Insulin and Oral Hypoglycemic Agents in Pregnancy  
Metelko, Ž.; Pavlić-Renar, I. (Zagreb)

214 Continuous Glucose Monitoring for the Evaluation and  
Improved Treatment Adjustment in Gravid Women with  
Diabetic Pregnancy  
Hod, M.; Yogev, Y. (Petah Tiqva)

222 Fetal Hypoxia and Its Monitoring in Pregestational Diabetic  
Pregnancies  
Teramo, K.A.; Hiilesmaa, V.K. (Helsinki)

230 Ultrasonic Surveillance of the Diabetic Fetus  
Ivanišević, M. (Zagreb)

254 Diabetic Pregnancy: Maternal Metabolic and Microvascular Complications  
in Type 1 Diabetes mellitus  
Pearson, D.W.M. (Aberdeen)

271 Pre-Eclampsia in Women with Type 1 Diabetes  
Mathiesen, E.R.; Damm, P. (Copenhagen)

278 Management of Delivery  
Miller, V.A.; Gillmer, M.D.G. (Oxford)
288 Offspring of Diabetic Pregnancy
   Persson, B. (Stockholm); Eriksson, U.J.; Hanson, U. (Uppsala)

310 Long-Term Consequences of Gestational Diabetes mellitus
   Lauenborg, J.; Mathiesen, E.R.; Damm, P. (Copenhagen)

320 Author Index

321 Subject Index
Preface

Diabetes mellitus has always been an active area of research. The complexity of the disease, its underlying pathogenetic mechanisms, progress in treatment strategies and recent insights into its potential and far-ranging complications have justified the establishment of diabetology as a medical and scientific specialty. In recent decades diabetes in pregnancy has evolved as a special subdiscipline. This book is published with the purpose of providing a comprehensive, but nevertheless concise, overview of the scientific and clinical characteristics/features of gestational diabetes as well as of type 1 and type 2 diabetes mellitus in pregnancy. It aims to address a wide range of specialists, health care professionals and academics, who are involved in tackling the medical and scientific problems of the disease and its influence on pregnancy and its outcome.

The ramifications of diabetes in pregnancy cover a broad range of areas and thus call for a multidisciplinary approach. Throughout this book the authors have tried to review published literature in this field on aspects such as etiology, physiology, molecular biology and genetics, immunology, pathogenesis, diagnosis, treatment and management, pathology and evidence-based medicine. In addition all the authors were encouraged to discuss their own observations and opinions.

Because of the population-dependent incidence and prevalence of diabetes in pregnancy the book begins with a chapter on its epidemiology. Two chapters deal with endocrine and metabolic changes in diabetic pregnancy, followed by a discussion on the role of leptin as the currently best-explored adipocyte hormone. Fuel-mediated functional teratogenesis and primary prevention introduce all
most recent aspects of the problem. Maternal influence on the embryonic development was the logical introduction to the chapter on normal and abnormal fetal growth, followed by discussions of nutritional effects on fetal development.

A special characteristic of this book are three chapters on the placenta as a fetal organ at the interface between mother and fetus. Its development, vasculogenesis and angiogenesis and morphological characteristics in diabetes as well as its potential to provide a defense for the fetus are covered. Several illustrations will aid the readers in understanding the complex information on the sequences of developmental and pathologic alterations.

The aim of several chapters in this book was to survey current concepts of the clinical management of the diabetic pregnancy including preconception diagnosis and care, and provide protocols for pregnancy surveillance. The recently introduced management of diabetic pregnancies with oral hypoglycemic agents is reviewed in a separate chapter. These articles were meant to form a basis for discussion among the medical professionals about which approach to choose.

The editors hope the reader will gain some profound insight into the complexity of diabetes and pregnancy as well as potential pregnancy complications during diabetic pregnancy and delivery. In order to cover the rapid progress that has been made in recent years, especially in the basic sciences, this volume would require additional chapters so as to include results in the field of genetics and molecular biology as they relate to diabetes in pregnancy. However, space limitations and the attempt to find a balance between a comprehensive and a concise approach have resulted in the selection of the chapters included.

It has been a great honor for us to collaborate with so many worldwide authorities in the field, several of whom had had the great opportunity to work and discuss with distinguished pioneers in the field such as Norbert Freinkel, Lars Molsted Pedersen, Lois Jovanovic and many others. Their particular expertise and their enthusiasm have helped to cover all the major topics of importance in diabetology of pregnancy. Without their dedicated contribution this project would not have been possible. Finally, the editors would like to thank the efficient and encouraging staff at Karger Publishers, who actively participated in our project.

Josip Djelmiš, Gernot Desoye, Marina Ivanišević
Zagreb and Graz, April 2005