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Small for Gestational Age

Causes and Consequences

Volume Editors

Wieland Kiess  Leipzig
Steven D. Chernausek  Oklahoma City, Okla.
Anita C.S. Hokken-Koelega  Rotterdam

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For medical, ethical, socioeconomic and humanitarian reasons, it is mandatory to foster research into causes and consequences of intrauterine growth retardation in the human. While a lot is known about the causes and consequences of being born small for gestational age, even more has yet to be discovered until the ethical, socioeconomic and health challenges and dilemmas of low birth weight have been dealt with. This book aims to address the most urgent questions and most relevant issues in terms of the clinical care of small for gestational age infants. In addition, frontiers of research into the causes and consequences of being born small for gestational age are being discussed.

H. Wollmann from the University of Tübingen, Germany, has worked in the area of pediatric endocrinology and neonatology both as a clinician and as a clinician scientist for more than two decades. He sets the stage with his chapter on definitions and the etiology of being born small for gestational age. In their chapter on the diagnosis and management of in utero growth failure, Odibo and co-workers from St. Louis, Mo., USA, delineate the prenatal etiology and manifestations of growth retardation. They point out that therapeutic measures during intrauterine life would be and will be the ultimate prevention and treatment of all disorders leading to small-for-gestational age birth. The origins of adult metabolic disorders are thought to be found in fetal growth restriction. In their chapter, Krechowec and co-workers report on their fascinating studies with regard to the developmental origins of adult diseases after fetal growth restriction. Chernausek from the University of Oklahoma, USA, draws attention to the wealth of knowledge that today abounds in relation to molecular genetic disorders of fetal growth. He is among the most successful researchers in this area of science and an experienced pediatric endocrinologist involved in the care of SGA children. Harder’s group from Berlin, Germany, discuss the hypothesis of the developmental/fetal origins of adult disease in a most elegant way. Franke and co-workers from New Zealand draw
our attention to the global perspective of low birth weight: it is very clear today that optimal fetal development ensures good postnatal health. In a short chapter, the group from Leipzig, Germany, summarizes our knowledge on the role of the GH/IGF system in respect to fetal growth. Knüpfer, Leipzig, Germany, suggests practical algorithms for the clinical management of small-for-gestational-age babies from the neonatologist’s point of view. Dahlgren, Göteborg, Sweden, writes on the management of short stature in SGA children, while Hokken-Koelega from the Sophia Children’s Hospital, Rotterdam, The Netherlands, reports on her very extensive experience in the regulation of puberty and adrenarche in SGA children. Tuvemo and co-workers from Uppsala, Sweden, summarize our knowledge of neurological and intellectual consequences of being born small for gestational age. This aspect has very long range sequelae and is of utmost importance. It is not just growth, metabolic and cardiovascular consequences that make life for SGA children special but also their development that raises concern and needs attention. Finally, Qadir’s group from Karachi, Pakistan, give deep insight into the causes and consequences of low birth weight in developing countries. Interventions that affect maternal and child undernutrition and nutrition-related outcomes include promotion of breastfeeding; strategies to promote complementary feeding, with or without provision of food supplements; micronutrient interventions; general supportive strategies to improve family and community nutrition, and reduction of disease burden.

The editors wish to thank Dr. Thomas Karger and his devoted staff at S. Karger, Publishers, Basel, Switzerland, for making this volume possible. We all wish to dedicate this book to Steven Karger who sadly was not able to see it in its finished state. We hope that the readers will gain new insights into the causes and consequences of small-for-gestational-age children and draw strength for the care of babies from their new knowledge and insights.

Wieland Kiess, Leipzig

Steven D. Chernausek, Oklahoma City, Okla.

Anita C.S. Hokken-Koelega, Rotterdam