Placental and Gestational Pathology
Diagnostic Pediatric Pathology

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Preface

Interest in the critical role that the placenta plays in pregnancy disorders and the subsequent health of both mother and child has dramatically accelerated. Seminal concepts including the fetal origins of adult disease (David Barker) and the role of evolutionary maternal-fetal conflicts in pregnancy outcomes (David Haig) combined with unprecedented advances in fetal imaging, biochemical monitoring, and genomic analyses have coalesced to properly identify the placenta as a central orchestrator of successful pregnancy outcomes.

Pathology is widely recognized as the critical link between abnormal pathophysiology, clinical disease, and adverse outcomes in other organ systems. Yet placental pathology has lingered for many years as an understudied, underappreciated, and esoteric side-show largely ignored by basic scientists and clinicians. This is no longer true. A diagnostic framework has been established, reproducibility has been demonstrated, and uniform diagnostic criteria and nomenclature for common lesions have been disseminated by the Amsterdam International Consensus Group. Continuing meetings of this group have been planned to complete these tasks for less common processes. Efforts in the US, such as the NIH Human Placenta Project and the NICHD Placenta Atlas Tool, and large studies around the world now all include a rigorous assessment of placental pathology.

The purpose of this book is to present a comprehensive overview of the new international consensus framework for placental pathology using a concise descriptive format that provides preferred nomenclature, alternative terms, definitions, proposed pathogenesis, clinical correlation, gross and microscopic features, prognostic implications, key references, and illustrative examples for every lesion. In addition to its focus on new terminology and its very specific outlined format, this book varies from other placental pathology textbooks by including comprehensive coverage of early pregnancy pathology and the pathology of the surrounding gravid uterus, and how they relate to findings in later placentas and overall pregnancy outcome.

We anticipate that this book will be of use to pathologists at all stages of training and practice ranging from first-year residents to subspecialty pediatric and perinatal pathologists. Pathologists in training will appreciate the concise descriptions and illustrations of each lesion. Experienced pathologists will find it useful to have the latest information for each lesion and will appreciate the unique insights provided by individual chapter authors, each of whom is not only a recognized expert in placental pathology in general but has also published widely on his or her individual chapter topic. We also strongly believe that this book will be of use to clinicians, including obstetricians ranging from general practitioners to maternal-fetal medicine specialists, neonatologists, child neurologists, and clinical geneticists, and to basic scientists interested in development, perinatal physiology, and the gestational origins of childhood and adult diseases.

Finally, the impetus for this textbook and our underlying approach to placental pathology can be largely attributed to Dr. Shirley Driscoll, and we dedicate this book to her. Her vast experience in gestational pathology was imbued either directly or indirectly to us through our training and experiences in the Women’s and Perinatal Pathology Division of the Brigham and Women’s Hospital from 1985 to the present. Although Shirley retired from clinical practice in 1989, the principles she established, working in concert with other outstanding pathologists such as Arthur Hertig and Kurt Benirschke, have guided each of us throughout our subsequent careers and are responsible for any success we have had in moving the field forward.