

Preface

Introduction to Pediatric Vascular Neurosurgery



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Children afflicted with neurovascular diseases can pose formidable diagnostic and therapeutic challenges to neurosurgeons. Recent technologic advancements in neuroimaging, endovascular therapies, radiosurgery, and intraoperative capabilities have provided new tools to help overcome many of these challenges. Increasingly, the use of multidisciplinary teams in the management of these conditions has markedly improved the ability of clinicians to achieve optimal outcomes. As guest editors of this issue of *Neurosurgery Clinics of North America*, we are proud to have assembled a series of articles on these topics from a distinguished group of specialists in this field.

Pediatric cerebrovascular disease is a broad topic that encompasses several distinct pathologies. Neurovascular disease in children differs from adult neurovascular disease in many important ways. For example, certain conditions are nearly unique to the pediatric age group; diagnosis and management can be more challenging with young children who have yet to develop the communication skills taken for granted in adults; and therapeutic decisions need to be made within the context of the expected long lifespan of a child. The topics in this issue were selected for their practical relevance to practitioners.

The issue begins with a discussion on the normal and abnormal development of the intracranial vasculature and transitions to an article on congenital and inheritable vascular diseases. Subsequently, experts discuss the management of pediatric arteriovenous malformations, including surgical, radiosurgical, and endovascular viewpoints. The fascinating disease of moyamoya is the subject of several articles, including ones that provide technical details and outcomes for the indirect and direct bypass techniques. Other topics covered in this book include cavernous malformations, spinal vascular malformations, traumatic intracranial and extracranial vascular injuries, sino-venous thrombosis, and intracranial aneurysms.

Our goal in putting this project together was to present the major issues in pediatric vascular neurosurgery in a comprehensive, up-to-date, and accessible format. It is our hope that this issue of *Neurosurgery Clinics of North America* is valuable not only to neurosurgeons but also our colleagues in allied specialties, such as neuroradiology, radiation oncology, neurology, pediatrics, and interventional neuroradiology. We are honored to have convened an outstanding group of authors to write this issue and we have benefited greatly from their expertise. We hope that readers enjoy

reading and learning from these articles as much as we enjoyed assembling them.

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