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Daniele Rigamonti
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*I dedicate this book to my wife and children, to the memory
of my father, who exemplified for me how a physician
should practice, and to Bunny and Charles Salisbury
who supported my research over all these years.*

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Preface

The diagnosis and the management of cavernous malformations (CMs) have been challenging and intriguing neurologists and neurosurgeons for several decades. Prior to the advent of MRI, the diagnosis of CM was often limited to patients presenting with either hemorrhage or seizures. The advent of MRI has completely transformed the field and asymptomatic as well as symptomatic CMs are now increasingly being diagnosed.

Along with an improved diagnosis, there has been an ever-improving understanding of their biology and the course of their natural history. Neurologists and neurosurgeons nowadays still face the challenge of determining the most appropriate treatment for lesions that, even when clinically quiescent, may be characterized by evidence of hemorrhage on advanced imaging. Currently, there is a general consensus on the conservative management of clinically benign CM, and on the appropriateness of surgical resection of symptomatic superficial lesions. Controversy persists regarding the most appropriate approach to treating deep or infratentorial lesions. Surgical resection performed by very experienced surgeons is a very valid option for symptomatic deep or infratentorial lesions; however, the risks associated with surgery in these locations are not negligible. The increased availability of radiosurgery as a tool for non-invasively reaching deep lesions has been therefore met with enthusiasm by some physicians and patients dealing with symptomatic CMs in deep or infratentorial lesions.

This book is an attempt to provide a foundation for an improved diagnosis and discussion of the treatment options available for CMs by critically summarizing

the knowledge gained over past decades and the opinion of leading experts in the management of CMs. The book has been divided into four sections, each emphasizing specific aspects of the CMs.

Section I on basic aspects aims to provide the foundation for clinical decision-making regarding medical and surgical management: it discusses the epidemiology and natural history of cavernomas. In addition, this section contains chapters that bring to light current understanding of CM biology, molecular genetics, and the role of ionizing radiation in de novo formation of CMs and the safety of radiation sources frequently used for diagnostic and therapeutic purposes.

Section II details imaging of CMs, the inconsistencies in the criteria for defining hemorrhage in CMs, and clinical features, including specifically seizures.

Section III discusses therapy: the options available to the patient are outlined and their pros and cons discussed. The surgical chapters contain up-to-date information regarding the technique and outcomes related to a specific location and problem. A radio-surgical chapter outlines the role of radiosurgery in the management of cavernomas.

Section IV, the last section of the book, deals with special aspects encountered in the management of these patients.

This book is the result of tremendous efforts put in by authors who have provided insightful guidance critical in the discussion of the most appropriate management of these lesions at this point in time. Special thanks go to the team at Cambridge University Press whose painstaking efforts made this book possible.

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