Raul Mattassi · Dirk A. Loose
Massimo Vaghi *Editors*

Hemangiomas and Vascular Malformations

An Atlas of Diagnosis and Treatment

Second Edition

Foreword by
J. Leonel Villavicencio

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Foreword to the Second Edition

In the preface to the first edition of this atlas, the authors mentioned the role of a tourist guide in a foreign land and his/her importance in enticing the visitor to return by making the tour interesting, attractive, and useful. The authors have clearly succeeded in their endeavor since it has been only 6 years that we all embarked on this trip and it seems that we liked it enough to merit our return to this land, where we will find plenty of reasons to justify the trip.

It is indeed fortunate that the interest in the field of congenital vascular anomalies has grown enough to merit, for the first time, a full-day program dedicated to them in the largest vascular meeting of the world, held in November 2013 in New York City. Many of the contributing authors to this atlas participated in that meeting. It was evident during that program that there are still many unknowns in the field and that many areas of controversy remain. But what was also evident was the noble, genuine desire to help the unfortunate patients suffering from these diseases. The effort, sacrifice, tenacity, and dedication of the editors and contributors to this new edition of *Hemangiomas and Vascular Malformations* will undoubtedly be reflected in better care and benefit to their patients.

Every new edition of an important book brings new advances and examines the progress made in the care of a group of enigmatic diseases that are not the favorite among many of our colleagues. Refinements in contrast-enhanced MR imaging have served as a stepping-stone to guide the approach to the endovascular management of vascular malformations. New and improved catheters and embolizing materials, and increasing experience with the use of lasers in either localized or extensive lesions, have played an important role in the management of complex malformations that, not long ago, were considered incurable. All these improvements and many others have been beautifully and elegantly treated in this new edition. I am genuinely impressed by the quality of the paper and the clarity and sharpness of the photographic illustrations that undoubtedly contribute to the reading pleasure of this fine new edition. I am sure that Professor Stefan Belov, a true

pioneer in the study and management of congenital vascular anomalies, teacher and friend of the editors, and a respected friend of mine, wherever he is, will be pleasantly smiling while reading this book.

April 2015

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Foreword to the First Edition

The field of congenital vascular malformations and the unfortunate patients that suffer from them will welcome this truly multidisciplinary international contribution to the study and treatment of a group of diseases that is gradually becoming better known, but not better liked, by the majority of our colleagues. Without question, the power of the Internet with its access to worldwide medical literature and the publication of complete issues of medical journals devoted to the subject of vascular malformations have contributed to expanding knowledge and eliciting curiosity among physicians who, some decades ago, would not have wanted to deal with unusual, poorly understood, and challenging diseases. A group of authors from 10 different countries, experts in their respective medical and surgical specialties who have felt the pain of the many patients afflicted by vascular malformations, have made a combined effort to increase and update the growing knowledge of these diseases. The tremendous technological advances in noninvasive as well as invasive diagnostic techniques, imaging, genetics, and therapeutic surgical and endovascular procedures have given us new weapons with which to treat and improve the lives of many desperate patients afflicted by diseases that, some years ago, produced only sorrow, compassion, and despair in their families and in the rare physicians who dared to tackle their problems. Congenital vascular malformations exert a powerful and fascinating attraction in a small group of dedicated and compassionate physicians, who see in these problems a challenge that is difficult to overcome. Often, the magnitude of the problem incites us to seek new avenues to solve it or, at least, to improve our patients' suffering. A great deal of progress has been made in the understanding and management of congenital vascular anomalies. These new advances are shared with other physicians so that they can find, through the pages of this book, new ideas on how to treat their patients and, hopefully, the solution to their patients' problems.

Bethesda, MD, USA — J. Leonel Villavicencio, MD, FACS

Preface to the Second Edition

After 6 years from the first edition of this atlas, we felt the necessity to update the concepts discussed in the extensive field of vascular anomalies and tumors. Several new data have thrown new lights in vascular pathologies, and new roads were opened in these years. The introduction of propranolol in the treatment of infantile hemangiomas, new concepts of classification, and the description of different types of arteriovenous malformations, among others, have significantly changed the comprehension and approach to these diseases.

The second edition has been extensively reviewed and extended in order to cover several new topics. The number of chapters has been increased from 38 to 53; much more space has been reserved for the discussion of the treatment of specific locations of the disease as specific sites require specific treatment. The chapters dedicated to the approach on different locations have been increased from 8 to 16. Collaborators to the book have also increased from 32 to 62, demonstrating how many new data have been included.

This volume is not a textbook but an atlas centered mainly on a practical approach to the topics. The goal of this book is to offer information on the management of hemangiomas and vascular malformations, with a short and precise text supported by pictures. Theory, although present, has been reduced to essential concepts in order to devote more space to practical descriptions to help the reader find out how to manage specific cases. As vascular malformations may be variable, often general concepts and extensive discussions of theory may not be helpful to solve some specific, uncommon conditions. For this reason, chapter authors have been selected especially because of their practical and direct experience in the specific argument.

Moreover, as opinions may vary among experts, we tried to involve authors from different countries and groups in order to offer a wide overview and different opinions.

We are all curious travelers in the world of science, and we are aware that as science fellows, our task is to share knowledge.

We are well aware that even a published book can be improved still: in this light, any input or comment from readers is welcome and will help us to update future editions.

Castellanza, Italy — Raul Mattassi
Hamburg, Germany — Dirk A. Loose
Garbagnate Milanese, Italy — Massimo Vaghi

Preface to the First Edition

When a curious tourist travels through an unknown country following a guidebook, at the end of his trip he may have a number of different feelings. If the land he visited was interesting and the guidebook brought him to the remarkable places and clearly explained the meaning of what he was seeing and how to move through the country, he may remain interested in his trip, love the new country, and want to return in order to explore it more in detail. If the guidebook was unclear, did not give him the correct explanations, or did not guide him to the best places, he will leave without an interest in the land, will lay down his guidebook, and will not come back. The goal of this atlas is to guide the reader through the difficult field of hemangiomas and vascular malformations, help him to understand them, and give him answers to questions mainly about practical approaches to these diseases. All the authors have made an effort to explain their topics in the simplest way with text and pictures. If we succeed in our effort and this small atlas is appreciated by readers, we will be happy that we have accomplished the goal given to us by our teacher and friend, Professor Stefan Belov, who dedicated his life to the study of these diseases and strongly desired to publish an atlas to help colleagues understand hemangiomas and vascular malformations in order to propagate knowledge and possibilities for treatment. He passed away before he could see his idea become a reality, but we hope that our efforts fulfill his wishes. We thank all the authors who spent their time making this book a reality. Special thanks to all our friends at Springer-Verlag in Milan and particularly Antonella Cerri and Alessandra Born.

Castellanza, Italy — Raul Mattassi
Hamburg, Germany — Dirk A. Loose
Garbagnate Milanese, Italy — Massimo Vaghi

Acknowledgments

This atlas, as the former edition, is dedicated to our beloved teacher and friend, Stefan Belov, under whose guidance we approached the mysterious field of vascular malformations.

Step by step, he taught us how to manage one of the most difficult challenges in angiology. He showed us how to apply techniques and encouraged us to change our approach. Only by humbly recognizing one's errors and accepting the knowledge and experiences of others can vascular malformations be managed. Through him, we learned that with courage, perseverance, and true caring of the suffering patient, a solution can be found even in apparently untreatable cases.

His greatest dream was to spread the knowledge he acquired when working all by himself in a very difficult condition. This stimulated us to prepare an atlas on this special topic. Thanks to him, first an Italian edition and later two English editions of this book appeared.

We hope that we made a contribution to realizing his dream: to expand knowledge and to extract vascular malformations from the niche of rare and untreatable diseases. We are also indebted to our patients, who showed us how living with a vascular malformation that no one is willing to treat can be heavy with suffering and frustration but full of love and meaning.

Our deepest gratitude goes to all authors for their enormous efforts to prepare high-quality chapters, and our sincere thanks go to the Springer editorial team in Milano for their help and support throughout the publishing process of the second edition.

And last but not least, a heartfelt thanks to our wives for their constant support and understanding.

Raul Mattassi
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