Atlas of Practical Mohs Histopathology

Sumaira Z. Aasi • David J. Leffell • Rossitza Z. Lazova

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Dr. Sumaira Z. Aasi
Stanford University School of Medicine
450 Broadway Street
Pavilion B, 4th Floor
Redwood City, CA 94063, USA

Dr. David J. Leffell
Yale School of Medicine
40 Temple Street
5th Floor, Suite 5A
New Haven, CT 06510, USA

Dr. Rossitza Z. Lazova
Yale School of Medicine
15 York Street, New haven,
CT 06519, USA

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To my beloved parents and siblings (Ghulam-Haider, Zubaida, Humaira, Irfan, Rummanah, and Salman) for their constant love, support, and faith even when I falter. To my mentors, particularly my two co-authors, who taught me Mohs surgery, dermatopathology, collegiality, and a determined will to achieve goals. And finally to my patients who teach me every day what it means to be a physician.

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To my fellows and students, whose curiosity is a great source of joy.

David J. Leffell

To my parents who raised me and taught me to be myself no matter what, to my son whom I love the most and have great expectations for, to my brother who is one of the kindest people I know and, most importantly, to the greatest husband in the Universe, Ken Robinson, with deep love and appreciation!

Rossitza Z. Lazova

Preface

This atlas is the product of combined clinical and laboratory experience of more than half a century. It represents a highly rewarding collaboration between cutaneous oncologists trained in Mohs microscopically controlled surgery and a dermatopathologist. In an age when technology such as whole exome sequencing of tumor DNA, optical coherence tomography of in vivo skin, and even spectrophotometric diagnosis of skin lesions is rapidly changing the way we understand skin malignancies and diagnose and treat them, it is remarkable that in a fundamental way we still rely on a method of microscopic diagnosis that is centuries old: the light microscope. The endurance of this “original technology” is less an indication of the absence of other cost-efficient diagnostic tools and more a reflection on the general reliability of conventional histopathology in making the majority of initial and often final diagnostic decisions about a cutaneous cancer.

Fundamental to the art and science of microscopic identification of cancer is the recognition of the wide range of variants for a particular entity and the need to view tissue in a flexible fashion. That is, one must master the fundamentals and understand what the images under the light microscope reflect biologically. Then, one must use that broader understanding of the images to make a clinically relevant and useful diagnosis. In essence, this atlas is intended not only to convey the fundamental features of each entity under discussion but also to highlight pathways to understand how those features may relate to others in a differential fashion so that a clinical decision can be made in real time. For this reason we have titled the book *Atlas of Practical Mohs Histopathology*. We hope you find this book a useful adjunct as you care for your patients with skin cancer.

Any errors or omissions in this text are ours alone. We would appreciate feedback and suggestions so that we may continue to improve both the quality and content of this first edition.

Sumaira Z. Aasi, M.D.
David J. Leffell, M.D.
Rossitza Z. Lazova, M.D.

Acknowledgments

This atlas, like any collaborative scholarly project, has required the input of many individuals. The information in this book is based on the academic work of those who came before us. Our goal was to distinguish this book with the highest quality images. In a day when internet-based teaching and digital imaging have revolutionized how we share information, in the world of Mohs microscopically controlled surgery the fundamental building block of quality in an atlas is the clinical material upon which the book is based. If the histologic slide is of poor quality, so too will be the photographic images upon which teaching is based. We have been fortunate over the past quarter century to have technicians who are supremely talented. Our staff has continually demonstrated dedication to patient care and achieving quality in the Mohs frozen sections which rivals that of permanent sections. Without their expertise and patience as we prepared the slides for this atlas, we would not have been able to craft a book that we hope will find a permanent place by your microscope. We would like to thank Ursula Carlson, Sylwia Kaczowka, Lezlie Roark, and the other technicians of the Yale Dermatologic Surgery Mohs lab. Ann Putio typed the manuscript in a professional and thorough fashion. It goes without saying that the fundamental *raison d'être* of this book is to enhance the care of patients. Over the past quarter of a century we have been fortunate to have remarkable staff and colleagues including nurses, clerical staff, and departmental administrators. Dr. Lazova would like to acknowledge Dr. A. Bernard Ackerman and Dr. Glynis Scott who taught her so much and inspired her. We would also like to acknowledge Richard L. Edelson, M.D., chairman of the Department of Dermatology at the Yale School of Medicine since 1985, who has fostered a culture of scholarship and patient-centered care in an environment that has allowed our cutaneous oncology and dermatopathology programs to thrive.

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