

Non-Neoplastic Disorders of the Skin

*AFIP Atlases of
Tumor and
Non-Tumor Pathology*



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AFIP ATLASES OF TUMOR AND NON-TUMOR PATHOLOGY

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NON-NEOPLASTIC DISORDERS OF THE SKIN

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DEDICATIONS

To all my mentors and colleagues, for their invaluable teaching and camaraderie on this curious and exciting path of dermatopathology.

May P. Chan, MD

To my family, for their endless support, and to all who are inspired by the pursuit of knowledge and discovery in dermatopathology.

Rosalynn M. Nazarian, MD

To my Wednesday writing partners, Divya and Amy, who made sure I wrote these chapters. To Kevin, Natalie, and Sydney, who have always supported my dream to be an academic dermatopathologist. And to my dermatopathology fellows and colleagues, who keep me on my toes, always learning, and always inspired.

Sara C. Shalin, MD, PhD

To past, current, and future University of Michigan dermatopathology fellows.

Scott C. Bresler, MD, PhD



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EDITOR'S NOTE

The Atlases of Tumor Pathology have a long and distinguished history. They were first conceived at a cancer research meeting held in St. Louis in September 1947, as an attempt to standardize the nomenclature of neoplastic diseases. The first series was sponsored by the National Academy of Sciences-National Research Council. The organization of this formidable effort was entrusted to the Subcommittee on Oncology of the Committee on Pathology, and Dr. Arthur Purdy Stout was the first editor-in-chief. Many of the illustrations were provided by the Medical Illustration Service of the Armed Forces Institute of Pathology (AFIP), the type was set by the Government Printing Office, and the final printing was done at the Armed Forces Institute of Pathology. The American Registry of Pathology (ARP) purchased the Fascicles from the Government Printing Office and sold them virtually at cost. Over a period of 20 years, approximately 15,000 copies each of nearly 40 Fascicles were produced. The worldwide impact of these publications over the years has largely surpassed the original goal. They quickly became among the most influential publications on tumor pathology, primarily because of their overall high quality, but also because their low cost made them easily accessible the world over to pathologists and other students of oncology.

Upon completion of the first series, the National Academy of Sciences-National Research Council handed further pursuit of the project over to the newly created Universities Associated for Research and Education in Pathology (UAREP). The Second Series was started, generously supported by grants from the AFIP, the National Cancer Institute, and the American Cancer Society. Dr. Harlan I. Firminger became the editor-in-chief and was succeeded by Dr. William H. Hartmann. The Second Series Fascicles were produced as bound volumes instead of loose leaflets. They featured a more comprehensive coverage of the subjects, to the extent that the Fascicles could no longer be regarded as "atlases" but rather as monographs describing and illustrating in detail the tumors and tumor-like conditions of the various organs and systems.

Dr. Juan Rosai was appointed as editor-in-chief of the Third Series, and Dr. Leslie Sobin became associate editor. A distinguished Editorial Advisory Board was also convened, and these outstanding pathologists and educators played a major role in the success of this series, the first publication of which appeared in 1991 and the last (number 32) in 2003.

The same organizational framework applied to the Fourth Series, meticulously edited by Dr. Steven Silverberg with Dr. Ronald DeLellis as the associate editor. With UAREP and AFIP no longer functioning, ARP remained the responsible organization. The Fourth Series volumes were hardbound with illustrations almost exclusively in color. There was also an increased emphasis on the cytopathologic (intraoperative, exfoliative, or fine needle aspiration) and molecular features that are important in diagnosis and prognosis. At the time of the Fourth Series, ARP also produced

Atlases of Non-Tumor Pathology; these volumes were numbered separately from the tumor volumes.

As in the prior series, the goal of the Fifth Series includes a continuous attempt to correlate, whenever possible, the nomenclature used in the Fascicles with that proposed by the World Health Organization Classification of Tumors, as well as to ensure a consistency of style. Including molecular diagnostics is more important than ever, as is the availability of an online component, a more nimble website (www.arppress.org), and a social media presence. Now in this series, the tumor and non-tumor volumes are combined and consecutively numbered as the Atlases of Tumor and Non-Tumor Pathology. Close cooperation between the various authors and their respective liaisons from the Editorial Board will continue to be emphasized in order to minimize unnecessary repetition and discrepancies in the text and illustrations.

Particular thanks are due to the members of the Editorial Advisory Board, our reviewers, the editorial and production staff, and the individual Fascicle authors for their ongoing efforts to ensure that this series is a worthy successor to the previous four.

Jason L. Hornick, MD, PhD



INTRODUCTION

The human skin acts as a protective barrier against external threats while serving many other crucial functions such as sensory perception and temperature regulation. As the largest organ of the body, it is also home to numerous neoplastic and non-neoplastic disorders. The vast majority of non-neoplastic skin diseases are inflammatory in nature, while a small subset is non-inflammatory. The latter includes a myriad of keratinization and pigmentation disorders, some of which are manifestations of genodermatoses. In this textbook, we will focus on inflammatory dermatoses, which encompass a wide range of dermatologic conditions that can be challenging to diagnose due to significant overlaps in clinical and histopathologic features. Furthermore, because many “classic” presentations of rashes may not necessitate a biopsy, dermatopathologists are more likely to encounter unusual or ambiguous cases that are particularly difficult to classify. As a result, the interpretation of non-neoplastic skin biopsies requires not only microscopic pattern recognition but also careful integration of clinical history, laboratory data, and other ancillary findings, wherever available, to render the most appropriate diagnoses.

This book covers 194 non-neoplastic dermatologic conditions, classified by their primary microscopic tissue reaction patterns. Our aim is to provide a concise, practical, and up-to-date review of these diseases. We offer a discussion on the clinical presentation, histopathologic features, pathogenesis, differential diagnosis, and management for each entity. One of the key attributes of this clinical atlas is the abundant collection of clinical and microscopic images used to illustrate the salient features of these disorders. We hope that this book will help our readers incorporate important clinical findings, identify helpful diagnostic clues, and decide when to employ appropriate ancillary tests as they interpret challenging skin biopsies for non-neoplastic diagnoses.

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