Color Atlas of Normal Cytology

By Arlene J. Herzberg, Dominic S. Raso, and Jan F. Silverman, 490 pp, with illus, Philadelphia, Pa, Churchhill Livingstone, 1999.

Color Atlas of Normal Cytology is the only resource textbook, to my knowledge, to document normal cytologic criteria for all body areas. The illustrations in the atlas are a significant portion of the book and constitute a major contribution to its usefulness. There are 15 chapters of normal exfoliative and fine needle aspiration cytology demonstrated in more than 1200 color photographs at low and high magnification and with Papanicolaou and Diff-Quik stains.

Each chapter is organized to include a brief overview of a specific body site anatomy, its histology and cytology correlation, and potential diagnostic pitfalls in the cytologic analysis of specimens from that body site.

The first 2 chapters detail basic cell structure with schematic drawings and diagrams and contain a review of preparatory techniques, staining methods, and various ancillary studies that play a major role in tumor differentiation.

The third chapter on cell and tissue types discusses the specific epithelial cell types, connective and adipose tissue, muscle, blood vessels, bone and bone marrow, and cartilage. The knowledge of benign anatomy is fundamental, and as the authors point out in the preface of the book, ''knowledge of the appearance of normal cells from the target organ and adjacent, sometimes inadvertently sampled organs, is essential to avoid confusion with pathologic processes.''

In the remaining 12 chapters of the atlas, the authors systematically discuss normal cellular patterns of the respiratory system, the digestive tract, the hepatobiliary system, glands, the lymphoid system, urinary tract, the female reproductive system, the male reproductive system, breast, body cavity fluids, neurocytology, and skin.

Several chapters feature useful tables, such as the 2 excellent tables in chapter 4 on the respiratory system. One of the tables lists the pathologic processes that may mimic normal respiratory cytology, and the second table reviews normal pulmonary cytologic presentations and the pathologic changes that resemble these findings. In chapter 7, which covers the endocrine system, there is a helpful table that demonstrates the usual features of normal, reactive, and malignant pancreatic ductal cells. In addition, in the ovary section of chapter 10 on the female reproductive system, we are provided with a useful table that lists the various benign ovarian cysts and the cytologic features expected in each.

Diagrams reproduced from *Gray's Anatomy* follow most of the sections in each chapter and are a helpful visual aid. In addition, each section contains a separate list of references, which provides the reader with additional information.

This atlas is an excellent and comprehensive reference book that documents a wide spectrum of normal cytologic findings. I would highly recommend this text as a valuable resource for all cytopathology professionals.

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Chemokines in Disease: Biology and Clinical Research

Edited by Caroline A. Hebert, 330 pp, with illus, Totowa, NJ, Humana Press, 1999.

In *Chemokines in Disease: Biology and Clinical Research,* Dr Hébert and a distinguished group of clinical and experimental investigators provide a novel and comprehensive review of chemokines in disease. The book is organized into 4 main sections, each composed of several well-written chapters.

The first section of the book demonstrates an interesting and precise overview of the chemokine and chemokine receptor family, including their sequence homologies, chromosome location, cell targets, and possible disease associations. Fifteen newly described chemokines are then presented in great detail. Finally, the role of in vivo chemokine function is introduced through examination of biological profiles recovered from transgenic and gene knockout mice investigations.

The second section of the book thoroughly examines the role of chemokines in various inflammator disorders, including asthma, interstitial lung disease, acute respiratory distress syndrome, rheumatoid arthritis, and organ transplant rejection. The role of chemokines in the pathogenesis of these inflammatory diseases is presented through the investigation of chemokine expression in clinical samples and clinically relevant animal models.

In the third section, the book addresses the role of chemokines in angiogenesis and wound healing in association with neoplasia. Specifically, the roles of CXC chemokines are thoroughly addressed in non–small cell lung carcinoma and melanoma. Phase I and phase II clinical trial results are then presented for a MIP-1α (macrophage inflammatory protein) analog developed for use as a stem cell protective agent in cancer patients receiving chemotherapy.

In the final section of the book, a detailed review of the eminent role of chemokines in viral biology is presented. After discussion of the mimicry of chemokines and their receptors by various viruses, several chapters present an in-depth review of the role of chemokines in human immunodeficiency virus (HIV) biology, including their roles in viral tropism,

the structure-functional relationships of HIV coreceptors, and the role of chemokine receptors in acquired immunodeficiency syndrome–associated dementia. Finally, potential therapeutic strategies for preventing HIV infection through antagonism of chemokine receptors are reviewed.

Overall, this book is a thorough and extremely well-organized review of the chemokine and chemokine receptor family. This book not only is designed as a primer for those readers who are new to the field of chemokine biology, but it also contains the most novel and valuable information for veteran chemokinophiles. If one were looking to purchase but a single specialty text addressing the role of chemokines in disease, this would be the one to choose.

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Advanced Atlas of Autoantibody Patterns

By A. R. Bradwell, R. P. Stokes, and G. P. Meed, 112 pp, with illus, Birmingham, England, The Binding Site Ltd, 1999.

This atlas is the third in a series of immunology-related books, the first 2 being *HEp-2* and *Tissue Atlas* published by The Binding Site.

There are 11 chapters, with a total of 112 pages. The authors dedicated individual chapters to the description of autoantibodies in liver, gastrointestinal, renal, endocrine, skin, neurologic, and muscular diseases. There are 2 special chapters on antineutrophil and antinuclear antibodies, with a final chapter that describes autoantibodies to cartilage, endothelial cells, joints, salivary glands, and sperm.

All chapters are exquisitely illustrated, with crisp photographs of immunofluorescence preparations. They are indeed a treat to the eyes of workers experienced in the field and perfect examples for beginners.

The methods to detect the autoantibodies in each organ system and their clinical and pathological significance are described in a succinct yet adequate fashion, with up-to-date references for each autoantibody. The chapter on renal diseases also contains illustrations of the streptavidin-biotin method applied to glomerulopathies.

In the introduction, the authors refer to the increasing use of monkey tissues as the substrates of choice for endocrine diseases and also for liver, kidney, and stomach autoantibodies. The advantages of using monkey tissues are their sensitivity to detect antibodies that are negative in rodent tissues, the latter being the most common substrate used in immunology laboratories. The only disadvantage of monkey tissues is that they are usually obtained from macaques, which are known AB antigen secretors; blocking the tissues with AB antigens eliminates the technical disadvantage.

The authors refer to the use of enzyme immunoassay in the detection of autoantibodies, stating that in their hands it is simpler and cheaper to screen small sample numbers by immunofluorescence rather than enzyme immunoassay. It is unclear, at the present time, what the future technology to detect autoantibodies will be in clinical practice.

This small atlas should be extremely useful to all immunology laboratories, clinical pathologists, and clinicians involved in the care of patients with autoimmune diseases.

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Progress in Pathology

Vol 4, edited by Nigel Kirkham and Nicholas R. Lemoine, 260 pp, with illus, Edinburgh, Scotland, Churchill Livingstone, Harcourt Brace & Co, Ltd, 1998.

Progress in Pathology, volume 4, is the most recent annual effort to inform pathologists of new advances; the text covers both ancillary techniques moving out of research laboratories and histomorphologic classifications and understandings of various lesions. A major portion of this book concerns molecular pathology, and the preface warns us that ''refinements and wider application of existing technology, have led to a variety of insights into the mechanisms behind many diseases. . . . We ignore this progress at our peril.'' The editors are quite convincing in their advice. The practicing pathologist should, however, be comforted. These newer techniques largely involve tissue on a glass slide, incorporating traditional histopathology with molecular techniques to improve diagnosis and prognostication.

The book contains 12 chapters. The first largely concerns how fluorescence in situ hybridization (FISH) complements conventional cytogenetics and molecular diagnostics. The writing is accessible and specialized terms are defined. It describes how FISH can be employed for interphase cytogenetics and how it enhances the utility of conventional metaphase cytogenetics by detecting otherwise missed genomic alterations found in, for example, microdeletion syndromes and hematologic malignancies. One application of FISH, the ability to localize results to individual cells, may have great potential in studying disease processes sometimes not accessible to polymerase chain reaction or Southern blotting. The book elegantly portrays spectral karyotyping, in which 23 separate colored paints can analyze cells, each corresponding to an individual chromosome. Comparative genomic hybridization compares normal and tumoral DNA and can catalog loss or gain of DNA sequences. These techniques are no longer Buck Rodgers–type speculations, and they also possess the capability to study routinely encountered solid tumors. It is not difficult to imagine that these techniques will affect routine practice in the not too distant future.

A chapter on prion diseases provides a needed update on these poorly understood diseases. It is readable and detailed, and correlates the symptomatology, morphology, and molecular pathology of sporadic, inherited, and transmissible prion diseases. A particularly interesting chapter examines the ''telomere clock'' and its relationship to cellular aging and oncogenesis. Recent evidence that has led to determination of the cell of origin and the role of clonality in Hodgkin lymphoma is also reviewed. Two chapters examine newer work on prostate cancer. One chapter primarily discusses neuroendocrine lesions of the lung. I found the chap-

ter on glandular lesions of the uterine cervix to be clear and useful. Other chapters discuss neural cell adhesion molecule in the development of the gut, colorectal carcinoma, growth factor gene mutations, and malignant melanoma.

The book is directed toward a British readership, and although discussion of the British National Health Service may lack relevance to American pathologists, it does not detract from the message of the writings. In a book with 12 authors, inevitably some chapters surpassed others. Some of the chapters consisted of fairly long lists of oncogenes and tumor suppressor genes that might have been better presented as an appendix. Some overlap occurred between the 2 chapters on prostatic carcinoma, and a few typographic errors were present. All in all, however, this is a well-written, useful, and informative book that I recommend to all pathologists.

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Lucas' Pathology of Tumors of the Oral Tissues

5th ed, by Roderick A. Cawson, William H. Binnie, Paul Speight, Andrew W. Barrett, and John M. Wright, 434 pp, with illus, London, England, Churchill Livingstone, Harcourt Brace & Co, Ltd, 1998.

It has been nearly 15 years since the last edition of *Lucas' Pathology of Tumors of the Oral Tissues*. During this period a great deal has changed, and the fifth edition of this book has certainly kept up with the times. First, the chapters contain a tremendous number of color figures, which fit seamlessly with the text for each given condition. Second, this book contains many pathologic entities that have been recognized since the last edition was published.

The organization of the book, while similar to previous editions, has been slightly modified. The book opens by placing a strong emphasis on odontogenic cysts and tumors. These sections contain excellent photomicrographs, radiographs, and clinical photographs where necessary. In addition, the section dealing with nonodontogenic tumors has been expanded to include a much wider array of entities. Similarly, the authors have increased their emphasis on the behavior and management of each condition. This information is not necessary for making a given diagnosis, but it provides the reader with an excellent overview of the entire condition, which is sometimes lacking in other books. In addition, the authors have included occasional and rare pathologic entities, which add some intrigue to the book.

In conclusion, this is an excellent general reference text that would be beneficial to both practicing or student general or oral pathologists.

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The Principles of Clinical Cytogenetics

By Steven L. Gersen and Martha B. Keagle, 558 pp, with illus, Totowa, NJ, Humana Press, 1999.

The Principles of Clinical Cytogenetics is a textbook and reference covering the gamut of cytogenetics; topics include basic molecular biology, cytogenetic nomenclature, quality control and quality assurance, prenatal cytogenetics, cancer cytogenetics, fluorescence in situ hybridization, imprinting, and genetic counseling, among others. Considering its large number of illustrations, this book is a relative bargain and should find wide applications. It will certainly fill a previously empty spot on the bookshelves of cytogenetic technologists and laboratory directors, genetic counselors, and clinical geneticists. Because of its clinical orientation, it should also be welcome in other clinical settings, such as in pathology residents' rooms. Teachers of some undergraduate and graduate courses in genetics and cytogenetics may find the book a good choice for their reading lists.

Because this book is a compilation of works by different authors, the various chapters are not uniformly targeted to a particular audience. Some of the chapters cover very basic principles, while others resemble literature reviews. The chapter entitled ''DNA, Chromosomes, and Cell Division'' is a primer that covers elementary molecular biology and cell biology. In contrast, the chapter on cancer cytogenetics essentially assumes that the reader possesses an understanding of the concepts of oncogenes and tumor suppressor genes and their applications in cytogenetics. It does not contain a single molecular diagram of a gene fusion resulting from a recurring translocation. However, cancer cytogenetics is a massive subject suitable for an entire book on its own. Furthermore, this chapter focuses on the cytogenetic aspects of cancer and has a large number of useful tables and an impressive reference list. Some of the more circumscribed topics, such as structural rearrangements and spontaneous abortions, permit a more complete treatment and are well written. The chapter-to-chapter variation of this book has a very positive aspect in that there is something for everyone.

Because chromosomes are inherently beautiful to those who work with them, a comment on the figures is in order. Most are good to excellent, but some could be improved. For example, the Q-banded karyotype on page 34 is speckled with white debris, the silver staining on page 84 will not be evident to those not already familiar with the process, and the fluorescence in situ hybridization signal over the marker chromosome on page 459 is not at all clear.

There are a few inevitable mistakes. Perhaps predictably, some of the ones that may go unnoticed by novice cytogeneticists are in the nomenclature chapter. For example, the long form description on page 47 of an interstitial deletion is incorrect, and genes are not listed in pter to qter order in 2 fluorescence in situ hybridization examples on page 59. In the autosomal aneuploidy chapter, the definition of aneuploidy is at best confusing; it would have been better to stick with the usual definition of a chromosome number other than 23n.

I point out these small problems in the hope that there will be future editions. This book was a substantial

undertaking and provides a convenient resource for information not previously available in one place.

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Tumors of the Ovary, Maldeveloped Gonads, Fallopian Tube, and Broad Ligament

By Robert E. Scully, Robert H. Young, and Philip B. Clement (Atlas of Tumor Pathology, *third series, fascicle 23), 527 pp, with illus, Washington, DC, Armed Forces Institute of Pathology, 1998.*

With the long-awaited third series of the Armed Forces Institute of Pathology's fascicle on gynecologic pathology, both the title and authorship have expanded to reflect the breadth of the field to date. The 527-page monograph includes 2 new chapters on tumors of the fallopian tube and tumors of the broad ligament and other uterine ligaments, and several others have been revised since the second series was published 20 years ago. Each chapter has been written using the updated World Health Organization nomenclature system for the histologic classification of ovarian tumors. Additionally, the authors include immunohistochemical and molecular pathologic techniques throughout the text.

The 27 chapters are superbly written, and the line drawings and photomicrographs are of excellent quality. The increased use of color has enhanced many of the gross and microscopic photomicrographs, in particular the immunohistochemical stains. Comparison tables are used judiciously throughout the text, adding to the overall quality of the monograph. The references are current. The major strength of the monograph is the emphasis on clinicopathologic correlation, which is woven seamlessly throughout the text.

The chapters on surface epithelial-stromal tumors provide a thorough description of serous borderline tumors, including the more unusual cribriform and micropapillary patterns. The histologic types of implants of serous borderline tumors are described in detail. The morphologic features of the endocervical and intestinal types of mucinous borderline tumors are described, and theories on the origin of pseudomyxoma peritonei are provided. Explanatory tables list the criteria for distinguishing the site of origin of endometrioid carcinomas that involve both the endometrium and the ovary, an issue that can provide confusion for the pathologist. A complete description of ovarian endometrial stromal sarcomas, adenosarcomas, and carcinosarcomas is presented.

The chapters on sex cord–stromal tumors describe sclerosing peritonitis in association with luteinized thecoma, and the section on Sertoli-Leydig cell tumors has been expanded to include an in-depth discussion of those with heterologous elements. Several variants of the yolk sac tumor, within the germ cell group, are described and include the hepatoid, endometrioid, and intestinal types.

The chapters on miscellaneous primary tumors and secondary tumors provide a complete review of lesions arising within and metastasizing to the ovary. The chapter on paraendocrine and paraneoplastic syndromes associated with ovarian tumors describes a wide variety of disorders, and various lesions that simulate ovarian neoplasms are described in the chapter on tumorlike lesions.

A new addition to this monograph are the chapters on tumors of the fallopian tube, broad ligament, and uterine ligaments. They complete the discussion on lesions of the adnexae.

The third series of *Atlas of Tumor Pathology* is a must read for all pathologists and pathology residents. Once again, Dr Scully, now in collaboration with Drs Young and Clement, has produced one of the best, well-written, and concise reviews of the topic to date. This reviewer only hopes that they don't keep their faithful audience waiting so long for the fourth series!

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