
The field of pediatric pathology abounds with general, specialized, and subspecialized textbooks, but few exist in the area of neoplasia. In 1986, Finegold edited a pioneering work in the field, Pathology of Neoplasia in Children and Adolescents, a compilation of chapters by different authors that were largely updated from invited articles published several years earlier in Human Pathology. This text provided an excellent introduction to the difficult problems faced in the pathologic diagnosis of pediatric tumors, but the field has expanded substantially during the past 11 years, especially in the area of molecular diagnosis. A successor to Finegold’s book has been needed for some time and has now appeared. Pediatric Neoplasia, edited and coauthored by David Parham and with chapters by a distinguished group of coauthors, provides a comprehensive approach to the pathology and biology of tumors in children. The text is presented in 16 chapters, with introductory chapters devoted to history of the subject and technique and the remaining chapters organized by organ system, type of tumor, or both. There are numerous photographs and diagrams, largely of excellent quality, with a section for color micrographs in the center of the book. Chapters offer an overview with extensive discussions of relevant tumors and numerous up-to-date references.

Several chapters are especially good. The discussion of neuroblastoma in Chapter 6 is complete and concise and covers the various classification and prognostication systems in some detail. Chapter 10 provides a useful and comprehensive discussion of pediatric germ cell tumors. The concluding chapters on leukemias and lymphomas provide a more complete discussion than one might expect in a text that covers all of pediatric neoplasia.

Errors and weak areas in textbooks are inevitable, especially in first editions and those that are multi-authored, and this volume is no exception. Chapter 2, on technique, would benefit from mention of Polaroid or digital photography as a means for providing section diagrams for specimens. The good discussion of flow cytometry would be improved by additional references and guidelines for setting up a laboratory and interpreting results. Chapter 3, on renal tumors, is weakened by insufficient emphasis on the importance of evaluation of renal sinus invasion for staging and prognosis in Wilms’ tumor. The characteristic vascular pattern of clear cell sarcoma is not well depicted in the illustration. The otherwise excellent chapter on soft tissue tumors other than rhabdomyosarcoma (Chapter 8) does not discuss in detail the important clinical and pathologic distinctions between childhood hemangiomas and vascular malformations. There is also insufficient discussion of the view of some authors that hemangiopericytomias should be regarded as part of the myofibromatosis spectrum. In the same chapter, Epstein-Barr-related smooth muscle tumors are discussed in the context of HIV disease but not in the setting of solid organ transplantation. The chapter on bone tumors, Chapter 9, would benefit from more extensive illustration of the widely variable histologic appearance of osteosarcoma. For the diagnosis of Langerhans histiocytosis, the usefulness and specificity of CD1a immunostaining needs to be mentioned, in contrast to the less-specific markers S-100 and peanut lectin. Chapter 11, on hepatic tumors, is illustrated almost completely by low-power photomicrographs, which are of limited value for experts or novices in the field; a less-telegraphic style with fewer abbreviations (such as “<“ rather than “less than”) would also improve this chapter’s readability.

It is perhaps expected that I would be most critical of the chapter that covers an area of my particular interest, Chapter 4 on Ewing’s sarcoma. Many questions remain unanswered about the Ewing’s group of tumors, a family of lesions that includes entities termed, variously, osseous and extrasosseous Ewing’s sarcoma, primitive neuroectodermal tumor (PNET), primitive neuroepithelioma, and Askin’s tumor. Nevertheless, it is still useful to describe and illustrate the variation in appearances of these neoplasms without sacrificing the histologic distinctions to be found. The colorplate illustration of “typical” Ewing’s sarcoma, Figure 4-3, is therefore disappointing because abundant neuropil is present in the tumor depicted. Ewing’s sarcoma and peripheral PNET most likely represent a morphologic spectrum of entities that share a genetic abnormality, and it is therefore somewhat misleading to represent a tumor with clear, histologic neural differentiation as typical Ewing’s sarcoma. Perhaps the most important diagnostic tool for pathologists in the diagnosis of these lesions is the various antibodies that recognize the MIC2 antigen, a cell-surface glycoprotein that is highly expressed by Ewing’s group tumors; it is thus unfortunate that the illustration of MIC2 immunostaining (Fig 4-14) does not clearly depict the typical strong membrane pattern of reactivity. Last, the statement that PNET has a prognosis that is poorer than that of Ewing’s sarcoma is, at best, controversial; recent publications present data that support the notion that neural differentiation has no bearing on prognosis in this group of tumors. Because of the difficulties involved in defining the tumors in this group precisely, I recommend simply referring to these neoplasms as “Ewing’s sarcoma/PNET” and describing their histologic features, because the treatment is uniform and the biologic and prognostic validity of distinctions proposed to date remains unproved.

The only remaining criticism of this textbook that I have is the unfortunate decision to segregate color illustrations to an island in the center of the volume. This location makes for awkward reference and interrupts the flow of the discussion. This arrangement was most likely devised to economize on publication costs, which is laudable to the degree that it lowers the selling price, but it
would be an improvement if color illustrations appeared alongside the appropriate text in future editions.

A number of errors in spelling, usage, and labeling of illustrations require correction; careful editing of subsequent editions should serve to eliminate these distractions.

Despite the difficulties I had with certain aspects of this book, my overall impression is that it is an excellent text, the only up-to-date volume on the subject in existence, and therefore constitutes a valuable addition to the libraries of experts and trainees alike. This volume is a great aid to teaching and learning, and fills an important gap in the field of anatomic pathology in general and pediatric pathology in particular. I greatly look forward to using this textbook in my daily diagnostic and teaching activities, and I anticipate that future editions will be even better than the current volume.

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Gerard Nuovo takes the comprehensive subject of polymerase chain reaction (PCR) in situ hybridization and transforms it into enjoyable, informative reading. Dr Nuovo splendidly accomplishes the formidable task of producing a text that can serve as a valuable resource to investigators with varying levels of experience and theoretical knowledge.

The preface outlines some of the updates contained in this third edition. It states the author’s prediction that the use of this technology will help bridge the gap between surgical pathologists and molecular biologists, because the expertise of both are necessary for the application of this technology, a technology that has the potential to enhance the study of many areas.

The stated goals of the book are to provide: the necessary theoretical framework to understand the basics of PCR; a detailed discussion of the DNA synthesis pathways involved; start-up and in-depth protocols for the various types of PCR reactions (standard PCR, solution phase PCR, in situ PCR, reverse transcriptase (RT) in situ PCR); and detailed discussions on the clinical applications of these techniques and the necessary instrumentation.

The text is well organized, with gradual building of content after detailed explanations of the basic concepts. Dr Nuovo focuses on the use of nonisotopic labeling and detection systems using digoxigenin and biotin in lieu of radiolabeled probes. The limitations and strengths of each technique are discussed, and important points are stressed repeatedly. In addition to the author’s writing style, which is fluid and easy to read, the illustrations are another strong point.

The photographs are numerous and of high quality (including a colorplate section), inclusive of illustrative staining, case material, nonspecific staining, and trouble shooting. Most of the illustrative cases are examples of the clinical utility of the particular technique being described. Diagrams and tables are informative and easy to understand. There are also short numbered summaries after each section.

The arrangement of the chapters is logical. The first portion is devoted to background molecular biology and histology. The midsection details the procedures and is followed by chapters devoted to various protocols. The text includes information on treatment of slides, tissue fixation, protease digestion with regard to type and duration of fixation method, and probe synthesis; it provides several protocols for each procedure. Trouble shooting is emphasized and well handled. The focus is on performing the procedure and on solving the potential problems. Excellent discussions of the possible clinical utilities are provided, including the clinical utility of in situ hybridization for equivocal genital tract lesions and for the detection of clinically relevant viruses. Chapters 8 and 9 offer extensive discussions on human papillomavirus and HIV, giving factual background information and applications of the techniques described in the book.

This is an excellent reference for human papillomavirus and cervical dysplasia. It also has a very interesting and informative discussion on the applications of PCR in situ hybridization and RT in situ PCR in HIV myopathy and AIDS dementia (in association with immunohistochemistry).

The final portions include discussions on standard and new technologies for instrumentation and a detailed appendix outlining and describing anything one could possibly need for performing PCR, complete with sources, catalog numbers, and sizes.

The text is accompanied by a 90-minute videotape that is divided into four sections: preparation, technique, introduction to molecular pathology, and basic histology. The latter two sections are at an introductory level. The preparatory and technique sections are fairly well detailed; however, the outlined highlights were not on the screen long enough for sufficient review. Although the tape is informative, it is best used as an introduction before reading the book or as a review after its completion.

Reviewing this text was an enjoyable and informative endeavor. Any pathologist, pathology resident, or researcher would benefit from having this as part of a personal or departmental library.

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