Preface

Our understanding of urologic pathology has dramatically evolved over time. The field has undergone significant changes, particularly since the International Society of Urological Pathology (ISUP) has led numerous conferences to standardize specimen processing, reporting, and staging of urological malignancies and has recently published guidelines and recommendations regarding best practice approaches to the use of immunohistochemistry in differential diagnosis of tumors of the bladder, prostate, kidney, and testis.

Since the introduction of the Gleason grading system more than 40 years ago, many aspects of prostate cancer have changed, necessitating the modification of grading system to include new variants and subtypes of acinar adenocarcinoma of the prostate. Recently, researchers have gained new insights into the roles and function of the androgen receptors and the newly identified gene rearrangement involving the ETS family of transcription factors in prostate cancer and their clinical implications.

Histological grading of bladder cancer according to the modern principles of classification established in the World Health Organization (WHO) (2004)/ISUP system is crucial due to its prognostic significance, despite the limitations and opportunities for refinement inherent in all grading systems. Accurate tumor reporting and staging in transurethral resection and cystectomy specimens are critical to subsequent clinical management.

A new classification system, the ISUP/Vancouver classification of renal tumors, has been developed to include many recently described histological subtypes of adult renal epithelial neoplasms. A new nucleolar grading system for renal cell carcinoma has also been developed to better predict patients outcome. New advancements in genetics and molecular medicine have helped to better classify renal tumors into distinct clinicopathologic entities with different clinical outcomes and have improved our current understanding of familial syndromes of renal cell carcinoma.

Given the significant differences in treatment regimens and prognosis for the various testicular germ cell tumor types, particular emphasis has been placed on recently described patterns of overlapping morphology among germ cell tumors, on the important diagnostic pitfalls that could affect patient management, and on the utility of newly described immunomarkers in resolving challenging differential diagnosis.

This textbook of genitourinary pathology does not merely focus on diagnostic issues, important as they are, but also provides a single concise encapsulation of practical advances in the genitourinary tumor pathology
field and the most contemporary thought regarding specimen processing, grading, staging, new insights on histologic morphology, prognostic and management implications of unusual morphologic entities, and molecular markers with diagnostic and/or prognostic values. This textbook will guide the reader through the intricacies of prostate, bladder, kidney, and testicular tumor pathology; diagnosis and reporting; associated familial and hereditary syndromes; and genetic and epigenetic alterations playing a key role in the understanding of tumor biology. A chapter underlining intraoperative consultation challenges and implications for treatment is included for each organ to emphasize the pathologist’s role as a consultant during surgical procedures.

Although practicing anatomic pathologists represent the logical audience, this text includes facts useful to urologists, pathology residents, basic scientists, and translational researchers with an interest in genitourinary tumor pathology. This book assumes that the reader has a working knowledge of diagnostic genitourinary pathology.

The authors in this textbook have been carefully chosen as they represent the highest level of expertise in the field of uropathology. We are grateful to all contributors for believing in this project and for their effort to reach the final goal.

We hope that the readers of this volume will find this format friendly and helpful in the identification of practical advances in urological pathology.

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