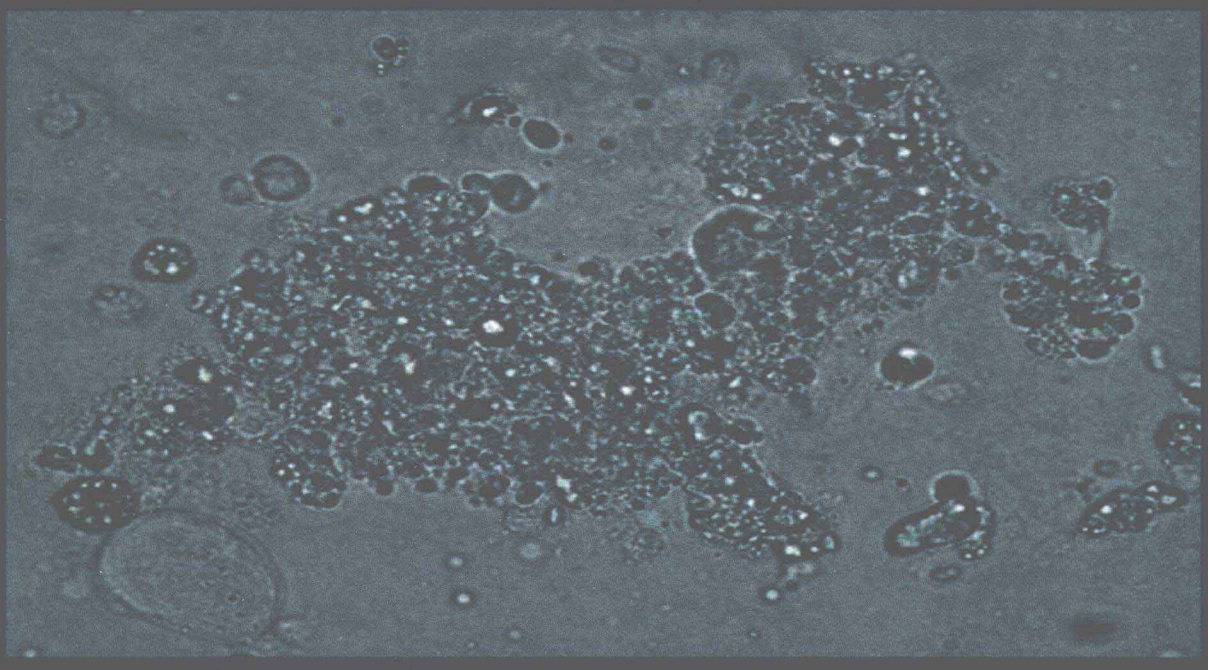
Bladder Cancer

Diagnosis, Therapeutics, and Management

Edited by

CHERYL T. LEE AND DAVID P. WOOD



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This book is dedicated to William Joseph Amato, an individual who has contributed greatly to my personal and professional development. He is my friend, my confidant, and my husband.

We also dedicate this book to the memory of Dr. Saroja Adusumilli.

Preface

Bladder cancer continues to be a major disease affecting the healthcare system in the United States, consuming almost $3 billion annually. Patients at low risk for disease-related death require long-term surveillance because of high recurrence rates. Treatment of intermediate- and high-risk disease requires complex management that is often misapplied due to difficulties in tumor staging and uncertainty about the natural history of non–muscle-invasive cancers. Radical surgery for muscle-invasive disease is underutilized because of concerns about complications, surgical technique, altered quality of life, and diminished reimbursement. Neoadjuvant chemotherapy is rarely incorporated in the management of locally advanced tumors, despite mounting evidence that it offers a modest, but real, survival advantage. Metastatic disease remains a deadly condition, as systemic therapies are largely palliative and not curative. Taken together, there are many challenging hurdles for clinicians when managing patients with this disease. Unfortunately, real progress in improving life expectancy from the disease has been slow.

A fundamental lack of clinical research in the field, coupled with disproportionately low funding from federal and foundation sources, has limited advances in multidisciplinary bladder cancer care. As a result, our practice patterns in 2008 are surprisingly similar to those in '988. In consideration of the major challenges facing patients and providers, we developed this text focused on clinical management. Within *Bladder Cancer: Diagnosis, Therapeutics, and Management*, a group of accomplished authors examine emerging techniques and strategies developed to address common clinical scenarios. Authors provide insight into obstacles to improved survival, discuss methods to advance the field, and review the related supporting evidence. Our intended goal in creating this text is not to create a summary of bladder cancer, but to spur innovative thoughts and approaches to common problems in the management of early and advanced stage of the disease.

The book consists of four parts addressing diagnostics, surgical technique, and multidisciplinary care. Part I is dedicated to bladder cancer staging, which continues to plague clinicians who unknowingly understage 40–60% of patients. Inaccurate staging greatly undermines therapeutic efficacy and often leaves the patient undertreated. This section particularly focuses on understaging of invasive bladder cancer as well as improved pelvic staging with updated imaging. Part II addresses optimization of treatment for localized disease. Novel approaches to intravesical therapy are discussed, as are specific surgical techniques used to ensure cancer control but also provide improved organ preservation and quality of life. Part III briefly reviews applications of existing systemic therapies in the treatment of locally advanced tumors and metastatic disease. Consideration is given to new types of systemic therapies used in combination with standard drugs to provide a synergistic effect. Finally, Part IV is devoted to a discussion of infrastructure needed to support the translational research efforts that will propel this field forward. Contributors in this and earlier sections represent a mix of seasoned veterans and junior scientists representing the next generation to embrace novel technologies and innovative practice strategies.

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Part I
Improving Bladder Cancer Staging

Section 1
CIS

1
Approaches to Carcinoma In Situ (CIS)

J. Stephen Jones

Contents

Abstract Despite its traditional categorization as "superficial," Carcinoma in situ (CIS) is a high grade, flat, noninvasive bladder cancer confined to the urothelium. Bladder biopsy is required to establish a diagnosis. Cytology to examine voided or bladder wash urine can allow identification of malignant cells, but failure to recognize such cells does not rule out CIS. Options to improve cystoscopic recognition of malignant areas such as fluorescence cystoscopy and narrow band imaging are promising developments. A number of tumor markers have been developed. Most have high sensitivity, but these tests have varying specificity. The urologist must understand the implications of a negative or positive test in order to successfully integrate these tests into clinical practice.

Keywords Carcinoma in situ, Cytology, Cystoscopy, Intravesical therapy, Surveillance

1. Introduction

Malignant urothelial tumors confined to the bladder mucosa are accurately termed nonmuscle invasive instead of being given the traditional "superficial" label (1, 2). The traditional term suggested that all such tumors shared the relatively benign course of low grade papillary tumors. In contrast, patients with highly malignant lesions, including carcinoma in situ (CIS), actually have a serious prognosis if not recognized and treated successfully. CIS is often

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