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Nota di contenuto	Part I: Recent advances in prostate cancer etiology and pathogenesis -- Chapter 1: Prostate cancer: Epidemiology, etiology, and prostate cancer risk factors -- Chapter 2: Genetic susceptibility to prostate cancer -- Chapter 3: Basic insights into tumor microenvironment in prostate cancer -- Chapter 4: Oxidative stress, redox signaling and apoptosis in prostate cancer development and progression -- Chapter 5: Epigenenomics, transriptomics and translational control in prostate cancer -- Chapter 6: Metabolic reprogramming as a prostate cancer hallmark -- Part II: An integrative approach in prostate cancer diagnostics -- Chapter 7: Diagnostic, prognostic and theranostic potential of miRNAs in prostate cancer -- Chapter 8: Diagnostic approaches of prostate cancer: when a biopsy is required? -- Chapter 9: Histopathological and molecular markers in assessment of prostate cancer aggressivity -- Chapter 10: Tumor markers in early detection and monitoring of prostate cancer: recent advances.-Chapter 11:

Biological markers of therapeutic response in prostate cancer -- Part III: Current treatment options and monitoring of prostate cancer -- Chapter 12: Surgical treatment of prostate cancer -- Chapter 13: Robot-assisted laparoscopic radical prostatectomy -- Chapter 14: The use of apheresis in personalized cell-mediated treatment of prostate cancer -- Chapter 15: Hormone therapy for metastatic prostate cancer -- Chapter 16: Perspectives of immunotherapy for prostate cancer -- Chapter 17: Pharmacogenomics and precision therapy in prostate cancer: challenges and perspectives -- Chapter 18: Stereotactic radiotherapy in the treatment of prostate cancer -- Chapter 19: Treatment of castration-resistant prostate cancer.

Sommario/riassunto

This book provides an in-depth exploration of the biology of prostate cancer, from its cellular origins to its clinical manifestations and therapeutic options. In addition to thoroughly covering a variety of diagnostic methods, radical procedures, radiation therapy, hormone therapy, and surgical techniques for prostatectomy, the book seeks to improve the understanding of the development of prostate cancer. Delving into the latest research and scientific advancements, the book starts by shedding light on the critical role of genetic susceptibility, redox signaling, apoptosis, epigenomics, transcriptomics, and metabolic reprogramming in prostate cancer development and progression. In the following section key concepts in prostate cancer diagnostics are covered. This includes the diagnostic, prognostic, and theranostic potential of miRNAs in prostate cancer; the necessity of biopsy; and the importance of histopathological and molecular markers in assessing aggressivity. It also explores recent advances in tumor markers for early detection and monitoring, as well as biological markers of therapeutic response. The book concludes by offering a wealth of knowledge on current treatment options for prostate cancer, including surgical treatments, hormone therapy for advanced cases, the use of apheresis in personalized cell-mediated treatment, pharmacogenomics and precision therapy challenges and perspectives, stereotactic radiotherapy, and treatment for castration-resistant prostate cancer. Scientists and medical professionals interested in basic and clinical research in urology and oncology will find this book to be a useful reference. It is a helpful tool for preparing medical specialization in pathology, oncology, urology, clinical biochemistry, laboratory medicine, diagnostic radiology, oncologic radiology, and related fields of cancer research. With its integrative approach to diagnostics and focus on recent scientific breakthroughs, this book empowers readers to deepen their understanding of prostate cancer and enhance their ability to advance basic and clinical research to treat this pervasive disease.