
Preface

The conception of this book arose from an ongoing course created in 2010 for Cancer Biology Ph.D. students at Harvard Medical School, entitled “The Epidemiology and Molecular Pathology of Cancer.” A series of general lectures begins the course, upon which the introductory chapters of this text are based. Each subsequent day of the course is dedicated to a single cancer type, with lecturers providing an overview of the cancer from the points-of-view of both an epidemiologist and a pathologist. The course, and thus this text, is unique in that it integrates the disciplines of cancer pathology and epidemiology, ranging from population-based understandings to detailed molecular mechanisms to provide a synergistic and comprehensive view of cancer pathogenesis.

Pathology is at the cornerstone of cancer pathogenesis, diagnosis, prognosis, and treatment. While other books may focus on either the morphological aspects or the mechanisms of cancer etiology and pathogenesis, this text will provide relevant information on the diagnostic, prognostic, and predictive molecular pathology of cancer. Epidemiological studies, both descriptive and analytical, provide insights into the burden of cancer, its causes and opportunities for prevention, and contribute to the understanding of the molecular mechanisms of disease from a population-based prospective. The two disciplines pathology and epidemiology are symbiotic in their objectives and tackle the understanding of disease from complementary paths. By integrating these two disciplines with basic and medical science, as well as with population-based studies, we provide a unique and comprehensive overview that helps the reader to understand neoplastic disease processes.

This book will concentrate on several of the major cancers that are prevalent and for which substantial molecular, pathological, and epidemiological data are currently available. Part I of this book introduces readers to some basic concepts in pathology, epidemiology, screening, genetics, and biostatistical approaches. Following this, Part II consists of paired chapters presenting basic biology, current epidemiological data, and common practices and challenges related to molecular pathology of a given cancer type—one chapter written from the point of view of a pathologist and one from the point of view of an epidemiologist. That said, we have collectively taken great care to ensure that the chapters provide complementary and nonoverlapping information for the cancer types discussed within.

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