Oncogenomics: Molecular Approaches to Cancer


Cancer is not a single genetic disease but, rather, hundreds of diseases consisting of various combinations of genetic alterations. Many types of genetic alterations contribute to neoplastic transformation. The evidence for this statement has now become common knowledge. In a similar vein, almost everybody believes that genome sequencing is paving the way to a revolution in biology and medicine in general but in oncology in particular. We all mention imatinib and a few monoclonal antibodies when we want to demonstrate that targeted therapies are already more than just a vision. We are, however, still unable to foresee clearly the role genomics will play in the prevention, diagnosis, and treatment of cancer in the next 10 or 15 years. This uncertainty stems mainly from a dearth of clinical data, and most of the data we do have are retrospective and therefore most probably biased.

As stated in its introduction, this book is probably the first of its kind devoted to the genomics of cancer. I approached it with mixed feelings: on the one hand, I was hoping to find answers to some of my questions, mainly because the span of the book reaches from molecular profiling to model systems for discovering and validating drug targets, and from molecularly targeted pharmacology to clinomics. The latter is a term coined by Daniel Von Hoff et al., whose chapter in this book defines clinomics as the application of genomics to patient care. On the other hand, I approached the book with some skepticism, since the field is moving so rapidly that I was afraid to find once again a book that was already too old or just provided reviews that everyone in the field has already read. But I was pleasantly surprised to find a book that is extremely rich in information and detail but is not more specialized than necessary.

One might criticize certain choices the editors have made — for instance, providing a discussion of the role of proteomics and genomics in bladder cancer but not in colorectal and lung cancer. This, however, is not very important, since the book was not written for physicians who seek an overview of the latest discoveries in the molecular biology of a specific cancer type. Oncogenomics is very good reading for oncologists who would like to understand what is happening in the laboratory and in the preclinical setting, especially in terms of techniques and research approaches. The book is also worth reading for basic and clinical scientists who intend to plan translational and clinical studies that entail oncogenomics. The essence of the book is to bring together scientists from various specialties and share the same language, a prerequisite for the next “leap forward.” It seems logical that the book concludes with an essay by A.C. von Eschenbach, the director of the National Cancer Institute, who gives his vision of oncology in 2015.

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Diabetes and Cardiovascular Disease: Integrating Science and Clinical Medicine


This extremely useful book describes the potential mechanisms underlying the macrovascular and microvascular complications of diabetes, the clinical manifestations of such abnormalities, and effective strategies for treatment. The information in its 500-plus pages is densely packed into two sections, one dealing with basic science (including 150 pages on vascular biology) and a larger section on clinical topics. In general, the chapters start with a brief introduction to a topic but rapidly move into very detailed descriptions of the subject at hand — for example, biochemical pathways. Each chapter succeeds in putting the basic-science aspect of the information into the context of the clinical setting. However, readers using this book as an introduction to diabetes may find it challenging and may benefit from reading a more general textbook before exploring the in-depth approach here.

Among patients with diabetes, 70 percent of deaths are attributed to cardiovascular disease. It is becoming increasingly clear that both metabolic and hemodynamic factors contribute to this risk. This book aims to introduce readers to a wide range of issues related to the disease, including epidemi-