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Breast Cancer

Innovations in Research and Management

Springer

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This book is dedicated to Umberto Veronesi, to his memory, and especially to his scientific and medical heritage.

Preface

The scientific and patient care communities have witnessed significant improvements in the diagnosis and treatment of breast cancer. Breast cancer is the leading cause of cancer morbidity and mortality in women worldwide. Screening, early diagnosis, and personalized treatments have provided better patient management, improved efficacy of therapies, and reduced mortality. Additional knowledge has been obtained by improving histopathological testing and conducting molecular and genetic investigations, which have also resulted in better therapies.

Progress in care of breast cancer patients has been achieved due to the clinical trials designed and conducted to demonstrate the efficacy and safety of therapies. This accumulation of evidence from randomized trials has resulted in a substantial improvement in patient care. Clinical trials can provide evidence indicating treatment efficacy but do not provide direct extrapolation on "how to treat the Individual Patient." The required intellectual step for extrapolation of useful details needed for adapting information from clinical trial results for the purpose of patient care is the multidisciplinary approach, a relatively novel methodology for discussion and negotiation involving several professional perspectives to define a common modality of diagnosis and treatment. With this spirit in mind, this book has been created, touching on all aspects of innovation in the care of patients with breast cancer. The editors and authors of each section and chapter are scholars in the field of breast cancer and are experts in conducting multidisciplinary discussions.

Professor Umberto Veronesi, who conceived the idea of this book to summarize modern developments in the diagnosis and treatment of breast cancer, was an internationally renowned innovator of diagnosis and all modalities of therapy for women with breast cancer. In the 1960s, he introduced the concepts that breast cancer is a disease with widespread extension of micrometastasis, and that the least extensive treatment (either surgical, radiation, or systemic) might suffice for obtaining the optimal therapeutic result. This approach involves specifically maintaining efficacy while reducing the burden of side effects of therapeutic and diagnostic interventions. Clinical research was conducted by him and others to intensively investigate this personalized approach for women with the disease. Areas of these clinical trial investigations included use of quadrantectomy instead of mastectomy, partial intraoperative radiation therapy instead of whole breast irradiation, sentinel node biopsy instead of full axillary dissection, and assigning systemic therapies according to features that predict responsiveness to different treatments instead of using the "same therapy for all" approach. His dedication to prevention was also methodologically remarkable, from pioneering work in early diagnosis to investigating chemoprevention in clinical trials. This book is a comprehensive presentation of breast cancer research and treatment, describing past and present information and including thoughts about the future.

Professor Umberto Veronesi passed away on November 8, 2016. Although he did not survive to see the book's birth, he was intensively involved in the editing until the last days of his life. He remained an example for all of us, insisting that the work should go on. This book is dedicated to him, to his memory, and especially to his scientific and medical heritage.

Special appreciation is extended by all editors and authors to Mrs. Lucia Racca, the backbone of Professor Veronesi's office for many years, who maintained the coordination of the editorial office until the completion of the work, well beyond her retirement.

This book is an important resource covering all aspects of breast cancer carcinogenesis, prevention, diagnosis, and surgical, radiation, and systemic therapies. It is particularly suited for those who seek exposure to a broad spectrum of knowledge of a multidisciplinary approach to understand the disease and facilitate optimal patient care.

Milan, Italy
September 2017

Aron Goldhirsch

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