Preface

Breast cancer is the most common malignancy among the female population. With the advances in systemic therapies and modern radiotherapy techniques, hopefully, breast cancer patients can have a long life expectancy. Therefore, it is crucial that radiation therapy should be carried out with minimum complications and with the utmost efficiency. The goal of this book is to provide a radiotherapy textbook, supported by practical information and current theoretical knowledge, which will contribute to the planning and implementing of modern radiotherapy techniques in breast cancer.

The primary challenge confronted during the determination of target volumes and organs at risk in the course of modern breast cancer radiotherapy is the identification of anatomic structures. Classic radiological atlases are designed at a neutral position of the body; however, computerized tomography simulation scans of patients with breast cancer, prior to radiotherapy planning, are obtained as the arms are held in various positions. Therefore, the positions of anatomic structures are quite different as compared with their neutral position, and this may result in significant contouring errors. Furthermore, the delineation of critical organs such as the heart, the main vessels of the heart, the esophagus, the brachial plexus, and the lung is crucial during the implementation of modern radiotherapy techniques in breast cancer. We believe that an atlas of breast cancer radiotherapy, demonstrating the delineation of both target and critical structures, in actual treatment position, will be very useful for our daily practical applications. Furthermore, the text is supported with up-to-date theoretical knowledge in all aspects of breast cancer, including epidemiology, molecular and biological basis, and integration of systemic therapies with radiotherapy in order to aid radiation oncologists during all steps of breast cancer radiotherapy.

We believe *Principles and Practice of Modern Radiotherapy Techniques in Breast Cancer* will assist residents, fellows, and clinicians in the radiation oncology field in learning and practicing breast cancer radiotherapy. The information presented in this book will be refined as radiotherapy techniques and clinical research advance.

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