

Preface

The major goal of developing this book is to optimize radiotherapy for Hodgkin lymphoma by providing clinicians who treat patients with this disease with a comprehensive account of the background for radiotherapy for Hodgkin lymphoma, the rationale for radiotherapy in a modern combined modality setting, and the data that document its contribution to the best outcome for patients. Special emphasis is given to the changes in volume and dose that have evolved over the past 2 decades, and the use of modern advanced technologies in imaging and radiotherapy planning and delivery in order to accurately target involved sites and protect adjacent organs.

Radiotherapy was the first curative treatment modality for this previously lethal disease, and the achievements of the pioneers of curative radiotherapy for Hodgkin lymphoma represented some of the earliest success stories of the non-surgical treatment of cancer. With the advent of effective multiagent chemotherapy regimens, the role of radiotherapy changed. Radiotherapy now became part of multimodality treatment. Moreover, the long-term toxicity of the very extensive radiation fields of the past became apparent. This led to a virtual scare of radiotherapy in certain circles, and efforts were made to replace combined modality treatment with chemotherapy alone, almost no matter how intensive, with surprisingly little regard for the long-term toxicity of chemotherapy itself.

Recent evidence on the consequences of omitting radiotherapy altogether in the treatment of Hodgkin lymphoma demonstrates that such a strategy is not yielding the best possible results with regard to cure. In early-stage disease, the interim analysis of the large H10 trial of the EORTC/GELA/IIL demonstrates that in patients who were rendered PET-negative after two cycles of ABVD, the substitution of radiotherapy with more chemotherapy in favorable and unfavorable patients results in significantly higher relapse rates than standard treatment with less chemotherapy followed by involved node radiotherapy (INRT). In advanced disease, where many regarded radiotherapy as of no additional value, the recent analysis of the British LY09 trial demonstrates that the omission of radiotherapy seemed to be to the detriment of the chance of cure also in these patients. Finally, the concept of mini-chemotherapy with mini-radiotherapy has been shown to yield excellent results in patients with favorable and unfavorable early-stage disease, as demonstrated by the final analyses of the German Hodgkin Study Group HD10 and HD11 trials.

Radiotherapy remains the most effective single modality for the treatment of Hodgkin lymphoma. The modern application of this treatment modality, with lower doses and with very much reduced volumes, has proved effective and reduced the toxicity of this treatment tremendously. Highly advanced technologies within imaging, e.g., PET/CT-scanning, image co-registration, four-dimensional scanning and

motion compensation, and within treatment planning and delivery, e.g., intensity-modulated radiotherapy, arc-therapy, image-guidance and motion gating or tracking, have revolutionized radiotherapy. These techniques allow highly conformal radiotherapy, sparing large volumes of normal tissues while maintaining target coverage. Such techniques can and should be employed in the treatment of Hodgkin lymphoma. We and others have developed these techniques, which are employed in the treatment of Hodgkin lymphoma in several large institutions on both sides of the Atlantic. It is our sincere hope that this book will aid radiation oncologists worldwide in implementing modern highly conformal radiotherapy in the multimodality treatment of Hodgkin lymphoma to the benefit of present and future patients.

This book could not have been written without the generous help of many colleagues who have contributed their knowledge and expertise to the different chapters of this book, and we wish to express our sincere gratitude for their contribution and support.

Finally, we want to dedicate this book to our spouses, Henrik and Judith, who have been most patient throughout and given us support and encouragement when we needed it most.

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