

EDITORIAL



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On Air: Updates in Lung Cancer RT

As we know all too well, lung cancer remains the leading cause of cancer death—by far—with more patients dying annually in the United States from this cancer than breast, prostate and colon cancers combined. Fortunately, the role of radiation therapy in lung cancer continues to evolve, increasing options—and hope—for treatment and survival.

One area of potential excitement and innovation is described in *Proton therapy for lung cancer: Current uses and future applications for early stage and locally advanced non-small cell lung cancer*. This informative and timely review article describes key studies and the rationale for proton therapy treatment, comparing passive scattering and pencil-beam techniques, while examining challenges such as intrafractional tumor motion.

We are also pleased to feature the related study, *Comparison of intensity-modulated radiation therapy (IMRT), adaptive radiation therapy, proton radiation therapy, and adaptive proton radiation therapy for small cell lung cancer (SCLC)*. This innovative study compares dose-volume histograms of target volumes and normal tissue structures to determine whether proton therapy is dosimetrically superior to photon therapy, and to assess the benefit of adaptive planning. The findings will serve as the basis for a planned phase II trial assessing toxicities in limited staged SCLC patients treated with proton therapy using adaptive planning.

A second review article, *Lung cancer radiation therapy: Defining optimal evidence-based treatment approaches*, delivers a useful framework for radiation therapy decision-making based on recent data, guidelines and treatment pathways. The article also examines the controversial role of consolidative thoracic radiation in patients with extensive stage SCLC, and discusses highly conformal treatments such as SBRT, assesses IMRT, and reviews hippocampal sparing techniques for patients undergoing prophylactic cranial irradiation.

The final article in our four-part lung focus, *Volumetric-modulated arc therapy (VMAT) for malignant pleural mesothelioma after pleurectomy/decortication* compares IMRT and VMAT delivery techniques with respect to dosimetric capabilities, MU and treatment delivery time. This interesting study also assesses planning constraints and the effects of beam angle arrangement on IMRT planning.

We hope you enjoy our focus on lung cancer and invite your comments, case reports and research findings to further evaluate data and techniques to optimize the judicious use of radiation treatment for this very common cancer.

As always, thank you for your ongoing support of ARO! We wish you a joyous holiday season and look forward to a new year of discovery, education, and collaboration across the globe in radiation oncology.

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