Esophageal Cancer

abstr 0802

Principles of Modern Radiation Techniques for Esophageal and Gastroesophageal Junction Cancers

GY Yang[1], SA McCloskey[1], NI Khushalani[1], JC Yap[1], C Nwogu[1], SS Yendamuri[1], HF Nava[1], CR Thomas[2]

[1]Roswell Park Cancer Institute, Buffalo, NY, USA

[2]Oregon Health and Science University, Portland, OR, USA

Esophageal cancer is a virulent neoplasm with high morbidity and mortality. With the benefit of radiotherapy (RT) combined with chemotherapy clearly established, the challenge is in the accurate and safe delivery of radiation. Improved understanding of patterns of esophageal cancer relapse and tumor spread and of organ motion in the upper thorax and abdomen have allowed for implementation of more conformal radiation techniques, including respiratory-gated RT, imaged-guided RT (IGRT), and intensity-modulated RT (IMRT). At a minimum, successful implementation of conformal radiation delivery requires a detailed understanding of esophageal anatomy and radiobiological principles, an individualized assessment of organ motion, precise patient immobilization techniques, and adequate physics and dosimetry expertise.

To aid the practicing clinician, the National Comprehensive Cancer Network (NCCN) has recently incorporated detailed recommendations on simulation, treatment planning, target volumes, and dose limits for select critical normal structures. The practicing clinician is urged to utilize the multitude of resources now available to ensure that optimal adjuvant radiation for esophageal cancer is delivered safely and accurately.