

Multimodality Imaging Approach, Staging and Therapy Assessment of Esophageal Cancer

Erika G. Odisio¹, Jeremy J. Erasmus¹, Wayne Hofstetter², Sonia B. Cuellar¹, Mylene Truong¹, Myrna G. Godoy¹

Department of Diagnostic Radiology, Thoracic Imaging Section¹, Department of Thoracic and Cardiovascular Surgery² - The University of Texas MD Anderson Cancer Center – Houston – TX – USA

Background Information: Esophageal cancer (EC) still has poor prognosis associated with high morbidity and mortality rate showing an increasing incidence worldwide even though early detection and multimodality therapy have improved outcomes. More than 90% of malignant EC is represented by squamous cell carcinoma (SCC) and adenocarcinoma (AC). In USA, the most common histologic subtype is AC, which has been associated with Barrett's esophagus and obesity. Clinical staging comprehend a typical tumor (cT) node (cN) metastasis (cM) system including histology and grade of malignancy. Appropriate clinical stage, management and assessment of therapeutic response are established based on multimodality imaging evaluation that includes endoscopic esophageal ultrasound (EUS), computed tomography (CT) and positron-emission tomography-CT (PET/CT) valuation. Teaching Points: The report of current 7th edition of the American Joint Committee on Cancer Staging System for EC and upcoming changes proposed for the 8th edition are revised. EUS is the best modality to access tumor depth (T classification) with accuracy of 89%. The first choice for valuation of metastatic locoregional nodes (N status) is the EUS with ultrasonography-guided biopsy. The identification of suspicious non-locoregional lymph nodes and intrathoracic distant metastatic disease is established by CT. The detection of distant metastasis (cM) is provided by CT of the chest and abdomen with intravenous and oral contrast. The FDG PET-CT contributes with the diagnosis of metastases, especially with advanced cT and cN classification, and also permits the assessment of response after neoadjuvant therapy. Conclusion: EC ranks 6th among all cancers in mortality, becoming symptomatic only in locally advanced stages. Correct staging and assessment of tumor response are essential for optimum therapeutic approach, demanding a comprehensive knowledge of multimodality imaging.