Chirurgia (Bucur). 2019;114(4):443-450
http://dx.doi.org/10.21614/chirurgia.114.4. 443

The Prognostic Role of Pre-operative Positron Emission Tomography-Computed Tomography and Endoscopic Ultrasound Parameters in Oesophageal Adenocarcinoma

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Abstract
Background: To evaluate the prognostic role of Positron Emission Tomography/Computed Tomography (PET/CT) and Endoscopic Ultrasound (EUS) performed before neoadjuvant chemotherapy (NAC) and surgery for oesophageal adenocarcinoma (OAC) patients, focusing on lymph node (LN) assessment.
Methods: OAC patients treated in a single tertiary center during January 2008 until December 2014 were retrospectively studied. All patients had PET/CT and EUS before NAC and oesophagectomy. PET-FDG-avid local LNs and maximum standardized uptake value (SUVmax) of the primary tumour, EUS positive LNs and EUS tumour length were recorded. Univariate, multivariate and survival analyses were performed.
Results: Following exclusions 151consecutive patients met the inclusion criteria, (median age 62 years). PET/CT and EUS sensitivity for local LNs metastasis was 39.2% and 88.6%, with specificities of 83.33% and 19.15% respectively. No overall survival (OS) difference was found between patients with PET/CT FDG-avid LNs and those with negative LNs (p=0.347). SUVmax uptake was divided into high and low (median cut-off value: 10) with no significant difference in OS between groups (p=0.141). EUS tumour length was not prognostic (OS, p=0.455).
Conclusions: Initial LN staging in OA is inaccurate. Although PET/CT and EUS assessments may be complimentary, none independently predicted survival.
Key words: oesophageal adenocarcinoma, oesophageal cancer, positron emission tomography, endoscopic ultrasonography