

Outcome Analysis of First-Line Somatostatin Analog Treatment in Metastatic Pulmonary Neuroendocrine Tumors and Prognostic Significance of ¹⁸FDG-PET/CT

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ABSTRACT

Introduction: Pulmonary carcinoids (PCs) are classed according to the WHO 2004 classification as typical (TC) or atypical carcinoids (AC). Due to their rarity, no dedicated clinical trials with somatostatin analogs (SSAs) have been carried out on primary PCs.

Methods: From January 2007 to December 2015, 30 patients with metastatic PCs underwent first-line SSA treatment (20 with octreotide LAR 30 mg and 10 with lanreotide 120 mg every 28 days). Eight (23.3%) patients had TC and 23 (76.7%) had AC.

Results: Median age was 65.5 years (range 47-82) and ECOG performance status at diagnosis was 0 for 14 (46.7%) patients, 1 for 11 (36.7%) and 2 for 5 (16.6%). All patients (23 males and 7

females) were ^{68}Ga -PET/CT- or Octreoscan-positive. Of the 20 patients who performed ^{18}F FDG-PET/CT, 14 (70.0%) were positive and 6 negative (30.0%). Median treatment duration was 10 months (range 2-59). One patient achieved a partial response (3.3%) and 26 (86.6%) showed stable disease. One patient interrupted SSA treatment due to symptomatic cholelithiasis. Five-year survival was 53.0% (95% CI: 15.0-80.0). Median PFS (mPFS) was 11.1 months (95%CI: 7.0-15.0). Negative ^{18}F FDG-PET/ CT patients had an mPFS of 15.2 months (95% CI: 7.6-not reached) compared to 7.0 months (95% CI: 4.0-10.1) for ^{18}F FDG-PET/CT -positive patients. No differences in mPFS were found in relation to TTF1-value, histological subtype, and presence of extrahepatic metastases.

Conclusion SSAs showed antitumor activity in terms of disease control rate and PFS and proved safe, even in patients with poor ECOG status. ^{18}F FDG-PET/CT would appear to be a prognostic factor.