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Short Communication
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Lung Carcinoids - 5 Years Analysis in a Tertiary Hospital

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Abstract

Pulmonary carcinoids are relatively rare neuroendocrine neoplasms, accounting for only 1% to 2% of malignant thoracic tumors.

Retrospective analysis of all cases of lung carcinoid tumors followed at a Portuguese hospital from 01/2017 to 12/2021.

Fifty-one patients were included, predominantly female and non-smokers; the mean age was 60.3 years. Nearly 40% underwent somatostatin receptor-based imaging; those who did 68Ga-DOTANOC PET, 82% were positive; those who underwent OCTREOSCAN, 40% were positive.

The final diagnosis was Typical Carcinoid (TC) in 55% and Atypical Carcinoid (AC) in 41%; in 4% it was not possible to make a histological differentiation. Stage I was the most frequent (61%), followed by stage IV (18%) in which the majority (67%) was represented by atypical carcinoid. The most common metastasis site was the lung, followed by bone and liver. Regarding treatment, ¾ of the patients went through surgery, of which two also did adjuvant Chemotherapy (CT); two underwent endoscopic treatment. In the advanced stage, one patient was under 1st line CT (cisplatin+etoposide) and two were under 3rd line (carboplatin+etoposide), after other lines of treatment with everolimus, octreotide and CT. Two patients, positive for somatostatin receptor, were treated with octreotide, and in 3 patients the chosen attitude was surveillance. There were two deaths, but none of them related to the neoplastic disease.

Well-differentiated neuroendocrine lung tumors differ substantially from other lung neoplasms. Most of them are diagnosed in early stages and the treatment is essentially based on surgical resection, with good prognosis.

Introduction

Lung neuroendocrine tumors represent a morphological spectrum of tumors from the well-differentiated typical Carcinoid Tumor (CT), intermediate-grade atypical Carcinoid Tumor (CA), and high-grade neuroendocrine carcinomas (small cell carcinoma and large cell neuroendocrine carcinoma) [1]. Carcinoid tumors represent 1% to 2% of primary lung neoplasms and usually behave in an indolent manner [2]. The purpose of this study is to describe the clinical features and treatment outcomes in patients with lung carcinoid at a single center.

Material and Methods

Retrospective analysis of all cases of lung carcinoid tumors followed at the Pulido Valente Day Hospital from 2017 to 2021.

Results and Discussion

Fifty-one patients were included in this study, 69% female and with a mean age at diagnosis of 60.3 years, with a minimum age of 18 and a maximum age of 82 years. The vast majority were non-smokers (59%), 29% were ex-smokers with a smoking history (TC) estimated at 32 pack-units/year (UMA) and 12% were active smokers at the time of diagnosis with an estimated TC at 37 pack-years.

During the diagnostic process, 37% (n=19) of the patients underwent imaging tests based on somatostatin receptors, 8 having OCTREOSCAN, 8 having PET 68Ga-DOTANOC and 3 having both. Of those who underwent 68Ga-DOTANOC PET, most were positive for somatostatin receptors (82%), of which 75% (n=6) were typical carcinoid. On the contrary, of those who underwent OCTREOSCAN, less than half (40%) were positive, with 63% showing atypical carcinoid; in one case it was not possible to differentiate them. In the case in which both exams were performed (n=3), in 2 there was positivity only on PET 68Ga-DOTANOC (one CT and one CA) and in the third case both exams were negative.

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The final diagnosis was CT tumor in 28 patients (55%), CA in 21 (41%) and in two patients it was not possible to make a histological differentiation.

Concerning typical carcinoids, stage I was the most frequent (n=20, 60.1%), with 17 patients in stage IA and 3 in stage IB. Two patients were classified as stage IIB and 1 as stage IIIA. Three patients (10.7%) were observed to be in advanced stage, that is, stage IV. In atypical carcinoids, stage I was also the most frequent (n=11, 52.4%), all of them in stage IA. However, in this group, stage IV represented 23.8% of patients (n=5). Finally, 4 patients were classified in stage IIb and 3 in stage IIIa. It was not possible to confirm the stage for 3 patients (2 CT and 1 CA). The most frequent site of metastasis was the lung (n=7), followed by bone (n=2) and liver (n=2).

Regarding treatment, the vast majority underwent surgery (75%) and two patients underwent endoscopic treatment. Two patients also underwent adjuvant chemotherapy, both in stage IIIA. Of the advanced stage patients, one was under 1st line QT (cisplatin and etoposide), and the other two were under 3rd line treatment. One of them had everolimus after having done 1st line QT (carboplatin and etoposide) and 2nd line octreotide; the other had QT (carboplatin and etoposide), having already done the same QT regimen 1st line and octreotide 2nd line. One of these patients, due to bone metastasis, was also submitted to bone RT. There were also two patients, positive for somatostatin receptors, who were taking octreotide. For three patients, the chosen attitude was surveillance. Finally, there was also one patient who died before starting treatment, from a cause unrelated to the malignant disease. From those who underwent surgery, 22 were CT and 16 were CA. Of those who underwent endoscopic treatment, octreotide or adjuvant CT, there was one CT and one CA for each. Palliative CT was the chosen treatment for three CA. Finally, vigilance was the selected attitude for two CT and one carcinoid without differentiation.

From this patient's sample, it is noteworthy that there were two deaths, but none of them related to neoplastic disease. Therefore, 49 patients (96.1%) were alive at the time of this work writing.

Well-differentiated neuroendocrine lung tumors differ substantially from other lung neoplasms. Most of them are diagnosed in early stages [3] and the treatment is essentially based on the tumor surgical resection, presenting, in general, a good prognosis [4].

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