CASE REPORT

Choroid Oligometastatic Lung Adenocarcinoma: Long-term Follow-up of a Radically Treated Patient

Adenocarcinoma Pulmonar Oligometastático da Coroide: Seguimento a Longo Prazo de um Doente Tratado Radicalmente

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ABSTRACT

Lung cancer is now the most frequently diagnosed cancer in the world and remains the most lethal, responsible for over 1.8 million deaths worldwide in 2022. However, a subset of limited metastatic disease seems to have a better outcome than multiple metastasis. Choroidal metastases of lung cancer usually occur in advanced stages, but isolated lesions have been treated successfully.

We report a case of oligometastatic lung adenocarcinoma in the choroid, treated with upfront lung surgery, followed by systemic chemotherapy that did not require local adjuvant radiotherapy and remains free from progression 9 years after surgery.

Keywords:
Adenocarcinoma of Lung;
Choroid Neoplasms/secondary

RESUMO

O cancro do pulmão é hoje o cancro mais frequentemente diagnosticado no mundo e continua a ser o mais letal, responsável por mais de 1,8 milhões de mortes em todo o mundo em 2022. No entanto, um subgrupo de doença metastática limitada parece ter melhores resultados do que as metástases múltiplas. A metastização do cancro do pulmão na coróide ocorre geralmente em fases avançadas, mas as lesões isoladas têm sido tratadas com sucesso.

Relatamos um caso de adenocarcinoma pulmonar oligometastático na coróide tratado com cirurgia pulmonar inicial, seguida de quimioterapia sistémica que não necessitou de radioterapia adjuvante local e permanece livre de progressão 9 anos após a cirurgia.

Palavras-chave:
Adenocarcinoma do Pulmão;
Neoplasias da Coroide/secundárias

INTRODUCTION

Lung cancer is the second most diagnosed cancer after breast cancer. It remains the most lethal cancer in the world, responsible for over 1.8 million deaths worldwide in 2022.[1] However, a subset of limited metastatic disease seems to have better outcome than multiple metastasis.[2] Choroidal metastases of lung cancer usually occurs in advanced stages but isolated lesions have been treated successfully.[3]

Our objective is to report the results of a long-term prospective follow-up of a case of oligometastatic non-small cell lung cancer (NSCLC) to the choroid, treated by a multidisciplinary team, with previous lung surgery and adjuvant chemotherapy, and review the literature.

Written consent was obtained from the patient to report his clinical case.

CASE REPORT

A 71-year-old diabetic and former smoker man (100 PY) was referred to Pulmonology consultation by an Ophthalmologist, due to the diagnosis of small asymptomatic choroid metastasis of the right eye in a routine Diabetic ophthalmology consultation. A computed tomography (CT) scan (Fig. 1) revealed a 41x19 mm mass (volume 17 cc) in the right upper lobe (RUL), in close contact with the superior vena Cava (SVC) whose fiber optic bronchoscopy did not lead to the diagnosis. On PET-CT (Fig. 2), the mass revealed increased uptake of fluorodeoxyglucose (FDG) with a maximum standard uptake value (SUV) of 11.3. There were several microscopic lung nodes without increased uptake and a group 5 lymph node suggesting inflammatory uptake. There was no increased uptake in the right eye.

A craneo-encephalic contrasted CT scan revealed no CNS metastasis and no intraorbital masses.

Discussed in a thoracic tumor board, in the absence of a tissue diagnosis, facing intimate contact with the superior vena cava (Fig. 2), without pathological mediastinal lymph nodes by CT or

PET-CT criteria, an assumption of a resectable oligometastatic RUL lung tumor was agreed upon. After a favorable pulmonary and cardiovascular evaluation, he was proposed for upfront surgery.

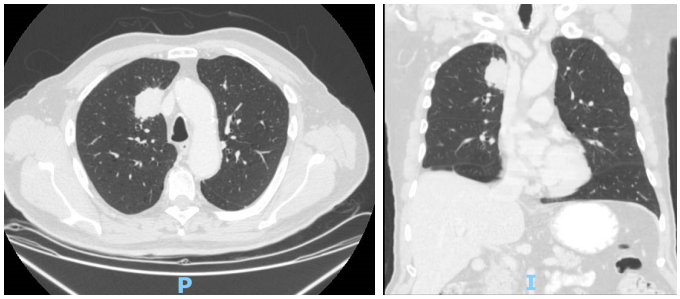

Figure 1 CT scan with right upper lobe tumor in close contact with superior vena cava

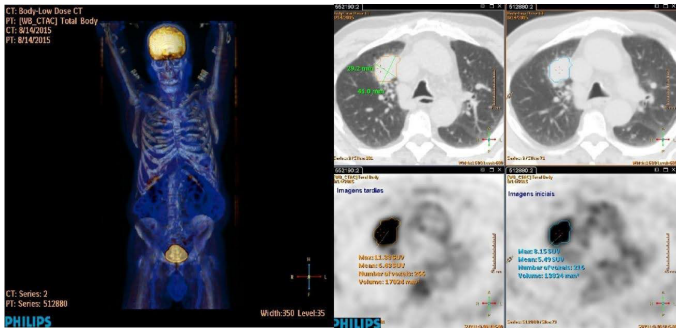

Figure 2 Initial PET-CT

He was submitted to a right posterolateral thoracotomy that allowed for an RUL lobectomy with the need for partial resection of a patch of mediastinal pleura. Invasion of the superior vena cava was not confirmed.

The pathology report revealed a lung adenocarcinoma with a papillary pattern, with involvement of the mediastinal pleura, but no lymph node metastasis in the hilum or groups 4R and 7. Final pathology revealed a 3.3x3.5x2.5 cm papillary adenocarcinoma with mediastinal pleura invasion. pT3N0M1b (8th TNM classification)

At the time, PD-L1 and target gene mutations were not routinely determined in surgical cases, for neither immune therapy nor target therapy had been approved for adjuvant treatment.

Back to the Thoracic Tumor Board, 4 cycles of chemotherapy (CT) with carboplatin and vinorelbine were proposed, followed by possible radiotherapy to the right eye.

After the CT the choroid metastasis remained non-progressive, so in cooperation with a national reference center for ophthalmologic Oncology, periodic close surveillance was initiated in the Ophthalmology Department, initially every month, then every 2 months, but has now been every 6 months.

At 9 years after the initial diagnosis, he remains free from local (Fig. 3) or distant disease progression.

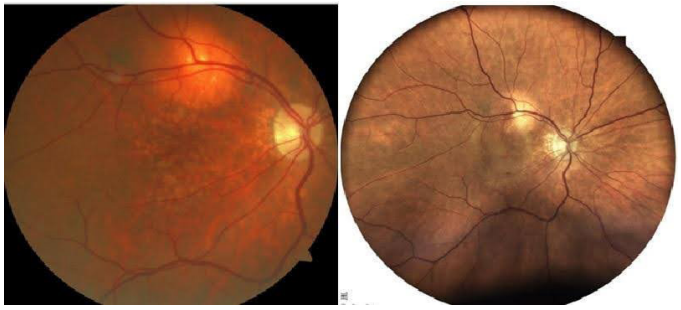

Figure 3 Right choroid single metastasis (left -2017; right – 2024)

DISCUSSION

Choroid lung cancer metastasis (CM) represents a rare event, although the posterior uvea is the sixth most frequent metastatic site for lung cancer. Usually asymptomatic, it can generate painful, often unilateral, unifocal lesions (77%). Most CM patients (70%-86%) have coexistent metastasis to other distant sites, with a tendency towards synchronous central nervous system (CNS) metastasis in 22%-32.5%.[4]

Diagnosis of CM is ideally supported by histopathology but in this case, a small CM with a radiological finding highly suspicious of lung cancer, after ophthalmology consultation, was assumed in a multidisciplinary lung cancer meeting to be an oligometastatic CM NSCLC case, amenable to radical treatment. Although the prognosis of CM is not established, due to the low number of patients reported to have oligometastatic lung cancer CM, it falls in the definition of oligometastatic disease with a favorable outcome by having 1-2 synchronous metastasis.[5]

As both the CM and the pulmonary lesion were difficult to biopsy, the effort was on staging to allow for a therapeutic strategy to be defined, which led to the surgical upfront approach and successful radical resection of the lung adenocarcinoma, which remains in accordance with the most recent guidelines on oligometastatic NSCLC treatment.[2]

The role of systemic treatment in oligometastatic NSCLC treatment remains undisputed,[2] with a few cases of successful CM treatment without local treatment,[3,6] as it happened in our case. Bevacizumab has been used successfully in the treatment of CM,[3] but its systemic use has not been approved for NSCLC treatment in our country, so at the time of the diagnosis, our patient was given the standard adjuvant sequential chemoradiation protocol with carboplatin and

vinorelbine. The decision not to offer radiation therapy was made after establishing the remission of the isolated asymptomatic CM after systemic therapy and so far, has been proven correct. The role of consolidative radiation therapy in CM is now reserved for locally progressive disease.[4]

Conclusion: Oligometastatic NSCLC CM is rare but should be addressed as any other oligometastatic lung cancer patient, with radical treatment. New systemic treatment protocols including target therapy and immune checkpoint inhibitors also play an important role in treating these stage IV patients.

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CR: First draft, image collection and literature review.
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