

Endobronchial melanoma: a case report

Melanoma endobronquial: reporte de un caso

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Abstract

We describe the case of a man with history of malignant melanoma who presented to the emergency department with nonspecific respiratory symptoms but was found to have a partially obstructive endobronchial lesion in the left main bronchus. When a biopsy was performed, it revealed a metastasis of malignant melanoma. In this report we discuss the characteristics of the rarely seen endobronchial malignant melanoma.

Keywords: Bronchospy. Melanoma. Endobronchial. Metastasis.

Resumen

En este artículo se describe el caso de un hombre con antecedentes de melanoma maligno que acude al departamento de urgencias del hospital con síntomas respiratorios inespecíficos. Finalmente, fue diagnosticado de una lesión endobronquial obstructiva en el bronquio principal izquierdo. Se realizó una biopsia, que evidenció metástasis de melanoma maligno. En este artículo se exponen las características del melanoma maligno, una entidad poco frecuente.

Palabras clave: Broncoscopia. Melanoma. Endobronquial. Metástasis.

Case presentation

We present the case of a 72-year-old male with a medical history of type 2 diabetes mellitus, which was adequately controlled with metformin and sitagliptin. Additionally, the patient had a previous smoking habit, with cumulative tobacco exposure of 4 pack-years, and a history of malignant melanoma stage IIIc at diagnosis, with subsequent lymphatic and bone recurrence, not undergoing active treatment due to recent adverse reactions to two lines of treatment.

The patient presented to the emergency department with cough and mild hemoptysis, starting approximately one month before his visit. There were no significant infectious symptoms (sputum or fever) or environmental exposures. The physical exam revealed dispersed rhonchi but was otherwise unremarkable. A chest radiograph showed clear lungs with no significant findings. The blood metabolic panel indicated C-reactive protein (CRP) value at 0.3 mg/dl, and blood gas analysis revealed no hypoxemia or hypercapnia. A thorough review from a previous fluorodeoxyglucose whole-body

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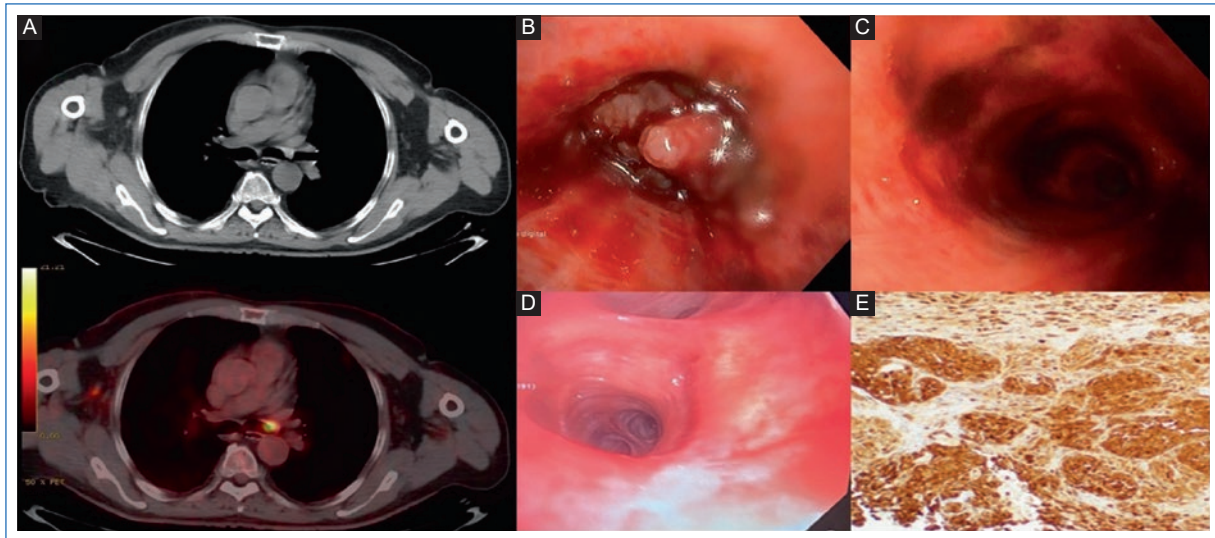


Figure 1. **A:** endobronchial lesion in the left main bronchus (LMB) on a fluorodeoxyglucose whole-body positron emission tomography (FDG-18 PET) scan. **B:** large partially obstructive lesion in left main bronchus (LMB). **C:** black macula in right main bronchus (RMB). **D:** after rigid bronchoscopy, LMB was left permeable. This image shows the bronchi distal to the lesion. **E:** positive immunohistochemistry of S100, performed on the LMB lesion.

positron emission tomography (FDG-18 PET) scan performed a week earlier on the oncology follow up revealed an endobronchial lesion in the left main bronchus (LMB) (Fig. 1A). This lesion exhibited elevated metabolism, and there were no signs of post-obstructive entities (no dilatation, consolidation, or atelectasis distal to the tumor).

Bronchoscopy revealed a large, pedunculated, friable lesion partially obstructing the LMB (Fig. 1B), since it was possible to proceed distally with the bronchoscope. Furthermore, on the right main bronchus (RMB), there was a black macula covering its posteromedial side (Fig. 1C). Suspecting endobronchial malignant melanoma and considering its bleeding risk, a rigid bronchoscopy was scheduled to biopsy the lesions and resect the left tumor. Under general anesthesia a rigid bronchoscopy was performed. The left lesion was coagulated with argon plasma coagulation (APC), followed by electrocautery. Recanalization was attempted further using APC, cryotherapy, and eventually with the blunt cylindrical end of the rigid bronchoscope (Fig. 1D). Subsequently, a biopsy with a biopsy forceps was performed on the RMB hyperpigmented macula. Histologic results of both biopsies revealed abundant cellularity with condensed chromatin and prominent nucleoli. Immunohistochemistry (IHC) on the sample showed positive results for S100, HMB-45, BRAF, and Melan-A (MART-1) stains; studies on TTF-1 and cytokeratin AE1-AE3 were negative

(Fig. 1E). These results are consistent with malignant melanoma. In summary, the patient was diagnosed with endobronchial metastasis of malignant melanoma. The patient was then referred to the Oncology department for further treatment.

Discussion

Pulmonary malignant melanoma (MM) can be either primary (extremely rare) or metastatic¹. Metastatic pulmonary MM, accounting for 5% of all pulmonary metastases², usually presents as bilateral well-defined pulmonary nodules, predominantly in the periphery. Endobronchial melanoma is an even rarer presentation. Endobronchial malignant melanoma is a rare entity and can be found 0-10 years after the diagnosis of the primary lesion³. The most common cause of death in metastatic melanoma is respiratory failure caused by metastatic MM⁴. In this case, metastatic MM was discovered 3 years after the initial diagnosis. Typical histopathology includes ubiquitous S-100 protein staining, as well as a reaction against HMB45 antibody⁵. The prognosis is poor, and there is no specific treatment. However, palliative measures such as laser therapy, APC, brachytherapy, stent placement, or photodynamic treatment⁶ can be taken. APC and mechanical debulking have proven to be safe and efficient measures to alleviate symptoms related to bronchial obstruction due to

malignancy. At times, brachytherapy has been employed as an adjunctive therapy to APC intervention due to its boosting effect on tumor resection⁷. Immunotherapy can also be useful⁸. However, it is often challenging to evaluate the efficacy of these therapies, given that the disease is often disseminated, and bronchial obstruction can recur in the future.

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Conflicts of interest

None.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

Use of artificial intelligence for generating text.

The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

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