

Clinical Image

Primary Pulmonary Melanoma: Unexpected Diagnosis of Lung Tumor

Melanoma pulmonar primario: un diagnóstico inesperado en un tumor de pulmón

Narat Srivali^{a,b,*}, Federica De Giacomi^{a,b}

^a Division of Pulmonary Medicine (NS), St. Agnes Hospital, Baltimore, MD 21229, USA

^b Respiratory Unit (FDG), Cremona Hospital, Cremona, Italy

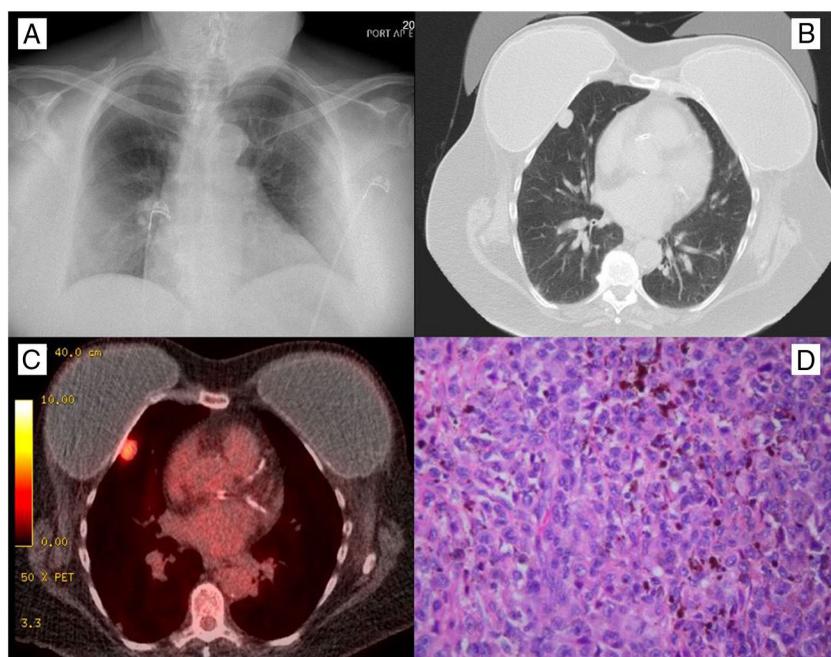


Fig. 1. (A) Chest radiography was unremarkable. (B) Computed tomography of the chest demonstrated 1.9 cm × 1.2 cm subpleural right middle lobe lung nodule. (C) F18-fluorodeoxyglucose positron emission tomography scan showed intense uptake in a nodule in the right middle lobe of the lung with no evidence of malignancy aside from the primary lung tumor. (D) Pathology of the resected specimen demonstrated the malignant cells form rounded nodules with thin fibrous rims. There are scattered areas with prominent coarse, brown pigment deposition. Cells are large with variable amounts of pink cytoplasm and form sheets. There are enlarged nuclei with irregular nuclear contours, vesicular chromatin, occasional multinucleation or nuclear inclusions, and some visible nucleoli consistent with melanoma.

A 64-year-old active smoker with a history of breast cancer status postmastectomy presented with abnormal computed tomography (CT) of the chest for lung cancer screening. Physical examination was unremarkable. Chest radiography was unrevealed (Fig. 1A). CT of the chest revealed a 1.9 cm × 1.2 cm subpleural right middle lobe(RML) lung nodule (Fig. 1B). F18-fluorodeoxyglucose

positron emission tomography scan (Fig. 1C) showed intense uptake of RML nodule with no evidence aside from the tumor. The patient underwent lobectomy and pathology of the specimen (Fig. 1D) demonstrated rounded, nodules malignant cells and scattered areas of brown pigment deposition. Immunohistochemical stains, S100 is strongly and diffusely positive, consistent with pulmonary melanoma. To rule out the diagnosis of melanoma metastasis from a primary site, the patient underwent a thorough repeat skin examination which showed no dermatology lesion, and the patient denied any history of skin malignancy. These clinical

* Corresponding author.
E-mail address: nsrivali@gmail.com (N. Srivali).

and pathology features support the diagnosis of primary pulmonary melanoma (PPM). The patient was recovered well after surgery.

PPM is found in only 0.01 percent of all lung tumors.¹ The clinical manifestations of the disease were like the other thoracic malignancies, including cough, hemoptysis, dyspnea, chest pain, or incidental finding² as in our case. A diagnosis is based on clinical and pathological criteria.³ The clinical criteria include an absence of either history of a previous melanoma or demonstrable melanoma outside the thorax at the time of surgery. The presence of a solitary lung tumor is required.³ The established pathological criteria incorporate immunohistochemical staining and evidence of melanoma cells or spindle cells arranged in fascicles.³ Lobectomy or pneumonectomy represents the best opportunity for long-term survival.¹

Funding

None.

Conflict of Interest

None for all authors.

References

1. Dountsis A, Zisis C, Karagianni E, Dahabreh J. Primary malignant melanoma of the lung: a case report. *World J Surg Oncol.* 2003;26. <http://dx.doi.org/10.1186/1477-7819-1-26>.
2. Paliogiannis P, Fara AM, Pintus G, Abdel-Rahman WM, Colombino M, Casula M, et al. Primary melanoma of the lung: a systematic review. *Medicina (Kaunas, Lithuania).* 2020;56:576. <http://dx.doi.org/10.3390/medicina56110576>.
3. Seitelman E, Donenfeld P, Kay K, Takabe K, Andaz S, Fox S. Successful treatment of primary pulmonary melanoma. *J Thorac Dis.* 2011;3:207–8. <http://dx.doi.org/10.3978/j.issn.2072-1439.2011.04.02>.