Pulmonary Mucinous Tumor of Low Malignancy

To the Editor: Bronchogenic carcinoma is the most common neoplasm and the most frequent cause of cancer deaths in men.[1] Histologic typing and classification of anatomical spread are the parameters that are usually used to predict outcome and plan therapy at the present time.[1,2] Epidermoid carcinoma, adenocarcinoma, and small cell lung cancer are the most common histological types, although there are other primary lung neoplasms that are less frequent and less well known. One of them is the subject of this report: the pulmonary mucinous tumor of low malignancy. The isolated cases that have been described have mentioned a variety of forms of presentation and approaches to management.

A 48-year-old man who was a current smoker (45 pack-years) and had no other relevant medical history complained of persistent cold symptoms that did not improve with outpatient antibiotic treatment. A chest radiograph revealed the presence of a pulmonary mass. Findings during physical examination, including heart and respiratory sounds, were unremarkable (Karnofsky score 100%). Blood count, coagulation tests, and biochemistry—including determinations of carcinoembryonic antigens (CA) 19.9, CA-125, CA-15.3, and alpha-fetoprotein—were normal. A tuberculin test and 3 sputum smears were negative. Basal arterial blood gases and lung function tests were normal, with a forced expiratory volume in 1 second of 3.11 mL (106% of reference). Bronchoscopy revealed no endobronchial alterations and cytology and microscopic examination of the bronchial aspirate were negative. A computed tomography scan of the thorax and abdomen with intravenous contrast confirmed the presence of a heterogeneous solitary pulmonary mass in the upper right lobe, measuring 6 cm in diameter with well-defined borders and without calcifications. No lymph node involvement or spread below the diaphragm was visible. An upper right lobectomy with ipsilateral lymphadenectomy was performed. The tumor had a thin wall and abundant mucoid content. Histology indicated the tumor contained large mucoid areas and a well-differentiated mucinous epithelium, with fibrotic zones on the edges, consistent with a diagnosis of pulmonary mucinous tumor of low malignancy in stage IB (pT2 N0 M0). After 14 months of follow up with no subsequent therapy, the patient was asymptomatic and had shown no signs of recurrence after bronchoscopy and a computed tomography scan of the chest.

Primary mucinous tumors of the lung are extremely rare neoplasms. Both benign forms (mucinous cystadenoma) and malignant ones (mucinous cystadenocarcinoma) are found, following a pattern similar to that reported for mucinous tumors of the ovaries or the appendix.[3,4] Most are benign and arise in the bronchiolar epithelium. Nevertheless, they may become malignant or incorporate adenocarcinomatous foci; occasionally, only anomalous cell structures or atypical cytologic findings are available, making it impossible to establish a firm diagnosis of adenocarcinoma, as was the case for the patient we describe. The diagnosis in such cases is primary mucinous tumor of low malignancy, a finding that is so exceptional that we have located fewer than 10 cases in the literature indexed by Medline between 1966 and 2003.[4,5]

These tumors affect male and female smokers over 45 years of age equally. Diagnosis is fortuitous or is made upon investigation of nonspecific symptoms. In such cases, radiographic or computed tomography exploration demonstrates the presence of a solitary, well-defined mass that is peripheral, not involving the bronchi. The content is heterogeneous and cystic. The lesion has a thin outer wall and may be multiloculated or not. The tumor must be distinguished from lesions such as bronchogenic cysts, congenital adenomatoid malformations, infectious or residual cysts, bronchoalveolar mucinous carcinoma, or metastasis of an extrapulmonary mucinous adenocarcinoma. Although cases of pleural or extrapulmonary dissemination have been reported, the postoperative prognosis for these tumors is good. Metastasis and recurrence are rare during diagnosis or throughout the course of disease, particularly in the case of tumors that are benign or of low malignancy.[5]

M. Haro Estarriol, X. Baldó Padró, and M. Casas Tarrús
Sección de Neumología, Servicios de Cirugía Torácica y Anatomía Patológica, Hospital Universitari de Girona Doctor Josep Trueta, Girona, Spain.

1. Bilello KS, Murin S, Matthay RA. Epidemiology, etiology and prevention of lung cancer. Clin Chest Med 2002;23:1-25.
2. Grupo de Trabajo SEPAR. Normativa actualizada sobre diagnóstico y estadificación del carcinoma broncogénico. Arch Bronconeumol 1998;34:437-52.
3. Dixon AY, Moran JF, Wesselius LJ, McGregor DH. Pulmonary mucinous cystic tumor. Case report with review of the literature. Am J Surg Pathol 1993;17: 722-8.
4. Ishibashi H, Moriya T, Matsuda Y, Sado T, Hoshikawa Y, Chida M, et al. Pulmonary mucinous cystadenocarcinoma: report of a case and review of the literature. Ann Thorac Surg 2003;76:1738-40.
5. Papla B, Malinowski E, Harazda M. Pulmonary mucinous cystadenoma of borderline malignancy. A report of two cases. Pol J Pathol 1996;47:87-90.