CASE REPORT

Large Cell Lymphoepithelioma-Like Carcinoma of the Lung

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Lymphoepithelioma-like carcinoma of the lung is a rare tumor that is considered a subtype of undifferentiated large cell carcinoma with abundant invasion by lymphocytes. Although initially described as a tumor occurring in the nasopharynx, this type of carcinoma has since been seen in many other organs. We report the case of a 59-year-old male smoker diagnosed with lymphoepithelioma-like carcinoma.

Key words: *Large cell lung cancer. Lymphoepithelioma of the lung. Epstein-Barr virus.*

Carcinoma anaplásico tipo linfoepitelioma de pulmón

El carcinoma tipo linfoepitelioma pulmonar es una entidad muy poco frecuente. Se considera una variante del carcinoma indiferenciado de células grandes que se caracteriza por su gran infiltración linfoide. Aunque inicialmente se describió en la nasofaringe, posteriormente se ha observado en otros muchos órganos. Presentamos el caso de un varón de 59 años, fumador, al que se diagnosticó de un carcinoma tipo linfoepitelioma.

Palabras clave: *Carcinoma anaplásico pulmonar. Linfoepitelioma pulmonar. Virus de Epstein-Barr.*

Introduction

Lymphoepithelioma-like carcinoma of the lung is a rare entity that was described for the first time in 1987.[1] It is considered a type of undifferentiated large-cell carcinoma and is characterized by abundant lymphoid infiltration.[2] The tumors described initially were nasopharyngeal but cases in which many other structures, including the lung, were affected have since been reported.

We describe the case of a 59-year-old man diagnosed with lymphoepithelioma-like carcinoma after fiberoptic bronchoscopy.

Case Description

A 59-year old male smoker of 30 pack-years with a history of chronic bronchitis and multiple sclerosis in progression, with spastic paraparesis of the right lower limb of 4 years' evolution, complained of breathlessness, dysphagia, and weight loss of 4 to 5 kg over the past 3 months. Physical examination revealed poor nutritional status (42 kg body weight) and rhonchus heard from the right lung. No lymph node enlargement or other findings were noted.

No abnormalities were found by the standard blood, blood biochemistry, or basal blood gas analyses. A chest radiograph revealed a large pretracheal mass. A contrast-enhanced computed tomography (CT) scan revealed a pretracheal mass that appeared to invade and occlude the trachea. Fiberoptic bronchoscopy revealed a highly vascularized distal tracheal tumor occluding 75% of the airway, attached to the wall and infiltrating the submucosal tissue. The mass, which had spread to the main carina, was biopsied at several points. Pathology indicated that infiltration was by lymphoepithelioma-like large cell carcinoma, negative for CD20 and positive for cytokeratins, peptides 8, 18, and 19, and epithelial membrane antigens (Figure 1).

After diagnosis, additional studies were performed. Only bilateral cordal edema was found upon otorhinolaryngologic examination. Serology was negative in the rapid Epstein-Barr test but immunoglobulin G (Ig-G) antibodies were positive for the virus. A cranial CT scan revealed no abnormalities. Finally, a bone scan showed increased tracer uptake in the second lumbar vertebra, several ribs, and the right shoulder.

The bronchial tumor was first resected by laser and a tracheal stent was implanted (Figure 2). Response to postoperative chemo- and radiotherapy was poor. Superior vena cava syndrome developed at 4 months and metastasis to the lung was detected. Respiratory insufficiency developed and the patient died 1 month later.

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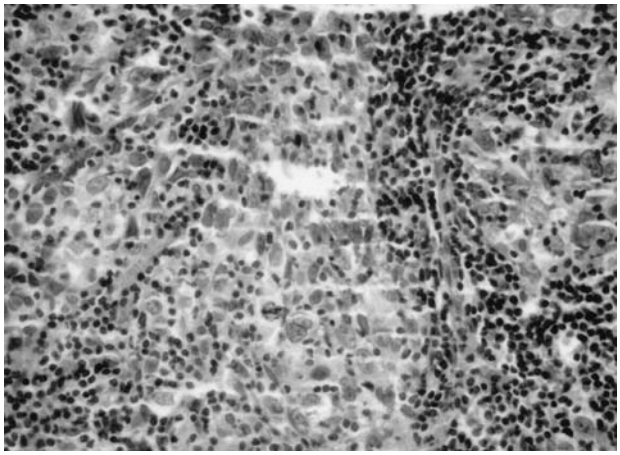

Figure 1. Connective tissue, showing neoplastic proliferation composed of large cells with marked nuclear atypia, prominent nucleoli, and frequent mitoses forming syncytial masses. Dense lymphocytic proliferation and scarcity of mature lymphocytes can be observed. These cells are focally positive for high molecular weight cytokeratins. Denser and more diffuse positivity is seen for cytokeratin peptides 8, 18, and 19. The cells are highly positive for epithelial membrane antigen and negative for CD20.

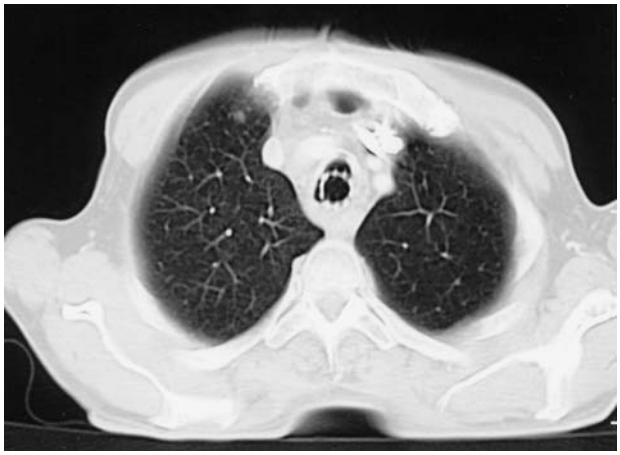

Figure 2. Thoracoabdominal computed tomography scan showing a mediastinal mass extending from the first sternocostal articulation to the left pulmonary artery, surrounding the descending aorta and involving the cephalad portion of the aortic arch, the superior vena cava, and the left brachiocephalic trunk. The tumor infiltrated and obstructed the trachea, necessitating implantation of a tracheal stent.

Discussion

Lymphoepithelioma-like lung cancer is a very rare diagnosis, listed recently by the World Health Organization as a subtype of large cell carcinoma for the histologic classification of pulmonary tumors. Primary lymphoepithelioma of the lung is an undifferentiated carcinoma with a predominantly lymphoid stroma and ultrastructural findings indicating squamous cell carcinoma.[3,4]

This tumor occurs most often in Asian patients, particularly individuals from China.[3,5] Thus, in one review of the literature in which 32 cases were described, more than two thirds of the diagnoses were in Asian patients.[6] The patients' ages ranged from 8 to 78 years and no differences were observed in frequency for males and females.

Regarding the pathogenesis of this neoplasm, although an association with Epstein-Barr virus has been described in Asians, this finding is less common in Caucasian patients.[7] Unlike other lung tumors, this one is not strongly associated with smoking.[1,7]

Lymphoepithelioma is rare as a primary lung tumor in non-Asians. Differential diagnoses include non-Hodgkins lymphoma and metastasis of nasopharyngeal carcinoma, in which histology is similar to that of pulmonary lymphoepithelioma.[8] Thus, after diagnosis, one of the main objectives should be to rule out the possibility that lung involvement is in fact metastasis from another location, generally the nasopharynx, which should be examined carefully by CT scanning or, preferably, magnetic resonance. Several biopsies of bronchial mucosa should be taken randomly in order to rule out undifferentiated nasopharyngeal carcinoma.[8] This diagnostic approach is important, given that there are clear therapeutic and prognostic differences that depend on where the primary tumor is located.[9] Lymph nodes are involved in 25% of cases, and the most common site of blood-borne metastasis is the skeletal system.[10,11]

The behavior of lymphoepithelioma-like carcinoma of the lung is highly variable, although the tumor is not particularly aggressive in comparison with other nonsmall cell lung cancers. This is so because, unlike the case we describe, lymphoepithelioma-like tumors usually present as peripheral lesions and are diagnosed in early stages.[6,7] Nevertheless, cases of large highly developed, relatively well-defined tumors have been described as being associated with the mediastinum.[12]

Little is known about the treatment of choice for this type of neoplasm. When possible, the first option is surgery, especially for tumors in early stages, as with other non-small cell lung tumors. Little is known about the response to chemo- and radiotherapy when the tumor is in a more advanced stage and inoperable, although there have been recent reports that these tumors are highly responsive to chemotherapy.[11,13]

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