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Unusual Clinical Presentation of Bronchioloalveolar Carcinoma in 2 Cases

T. Brutel de la Rivière, F.B.J.M. Thunnissen and G.P.M. ten Velde

BRONCHIOLOALVEOLAR CARCINOMA (BAC) accounts for 1–8% of all primary lung cancers [1, 2]. Two forms of BAC have been recognised: a solitary lesion and a diffuse form [3, 4]. Clinical behaviour and pathological appearance of the diffuse form varies from other types of pulmonary malignancies. 2 patients showing an unusual presentation of the diffuse form of BAC are described.

Case I (M/58, non-smoker, with solitary congenital bulla in left lung). He presented with a productive cough in supine and right lateral position. There were no signs of dyspnoea. A chest X-ray and computed tomography (CT) showed a large thin-walled fluid-containing cavity in the lower part of the left lung. In an aspirate of the fluid, no micro-organisms were cultured. A bulla arising from the left lower lobe waas resected. Histological examination confirmed the bulla. 6 months later he developed progressive dyspnoea and postural dependent cough with the production of 300 ml of whitish sputum per day. An X-ray of the chest showed two fluid levels in the left lung and an infiltrate in the right lower and middle lobe. A left-sided bronchopleural fistula was confirmed by expectoration of intrapleurally instilled methylene blue. Before a proper diagnosis was made, the patient died due to massive haemoptysis. Necropsy showed the diffuse form of BAC in both lungs. Massive necrosis was present in a BAC area in the remaining left lung. In retrospect BAC was also present in the resected bulla.

Case 2 (M/26, previously healthy). He was admitted with an infiltrate in the right lower and middle lobe and left upper lobe. He had a cough with an increasing amount of whitish sputum for about 5 months and dyspnoea on exertion. He had been smoking 15 cigarettes a day for 5 years. Sputum cultures and bronchial washings were sterile. Cytological and histological examination of washed specimens and transbronchial biopsies showed no malignant cells. Histological examination of an open lung biopsy showed a diffuse BAC. Chemotherapy was unsuccessful and the patient died 4 months after diagnosis. Necropsy was not performed.

Two histological types of BAC can be identified. Type I is the diffuse form, with multiple nodules, mainly composed of mucinous cells on a pre-existent septal alveolar stromal scaffold. In type II, there is a single nodule, with non-mucinous neoplastic cells.

Immunohistochemical staining [4] with anti-laminin and anti-type IV collagen monoclonal antibodies, both staining for basement membrane (BM) components, shows in type I BAC a linear BM structure, which is continuous and indistinguishable from the BM in adjacent histologically normal lung tissue. We showed this linear BM staining in both our cases (Fig. 1). On the contrary, in type II BAC the laminin and type IV collagen show a variable positivity, sometimes present in an irregular spotted fashion [4].

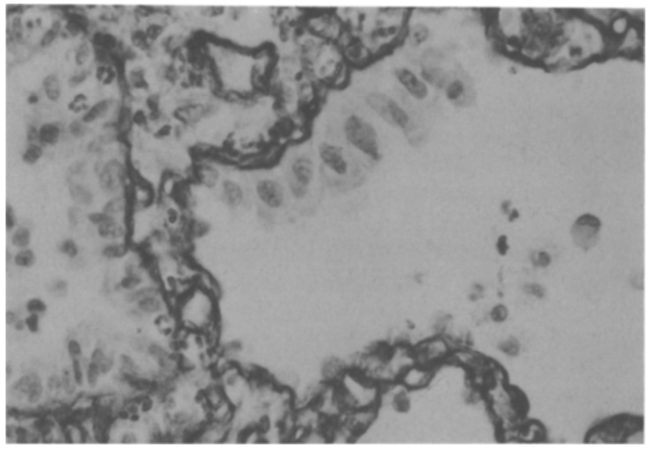

Fig. 1. Immunocytochemical staining with monoclonal antibody against collagen type IV. The basement membrane is continuous underneath carcinoma cells and type I pneumocysts (× 420).

An unusual clinical presentation of diffuse BAC is the occurrence in a bulla or lung cyst [5, 6]. However, all major histological types of lung carcinoma have been described in association with a lung cyst.

In general BAC arises at younger ages than other forms of primary lung carcinoma. However, the presentation of BAC at the age of 26 is unusual. The youngest recorded case so far occurred in a boy of 15 who had a diffuse BAC in one lung [7].

In conclusion, the clinical presentation of the diffuse form of BAC can be insidious. Both our patients suffered from cough with large amounts of sputum, in which no malignant cells were found. Even in very young patients and in patients with pre-existent bullae with pulmonary infiltrates, the possibility of BAC must be kept in mind.

Correspondence to G.P.M. ten Velde.
T.B. de la Rivière and G.P.M. ten Velde are at the Department of Pulmonary Diseases and F.B.J.M. Thunnissen is at the Department of Pathology, University Hospital Maastricht, University of Limburg, P.O. Box 5800, 6202 AZ Maastricht, The Netherlands.
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