Case report

Myoepithelioma of the lung

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Abstract

A 54-year-old woman with myoepithelioma, a very rare tumor of the lung, is reported. The patient presented with exertional dyspnea, cough and intermittent pleuritic chest pain. Her chest X-ray revealed a peripheral 2 cm mass in the left lower lung zone. Bronchoscopy was normal. She underwent thoracotomy in which a wedge-resection was performed. Histological examination of the specimen demonstrated myoepithelioma of the lung. © 2000 Elsevier Science B.V. All rights reserved.

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1. Case report

Myoepithelial cells are normal components of salivary glands, sweat glands and breast [1]. Hamperl [2] defined tumors containing mainly myoepithelial cells that are composed of three morphologic types: spindle, plasmacytoid and clear cells. Despite wide distribution of myoepithelial cells in the bronchial mucous glands, few tumors of myoepithelial origin have been reported in the lung.

A 54-year-old woman was admitted to the hospital complaining exertional dyspnea, cough and intermittent pleuritic chest pain, from which she had been suffering for the last 6 months. She had no history of a salivary gland tumor. She had been taking antihypertensive drugs for 10 years. Physical examination and blood chemistry evaluation were normal except an elevated blood pressure. The initial chest radiograph revealed a peripheral, well-defined shadow, 2 cm in diameter in the left lower zone. Computed tomography (CT) of the thorax demonstrated a 2.5 cm mass in the superior subsegment of the lingula. Fiberoptic bronchoscopy showed no endobronchial pathology and brushing and aspiration samples were reported as benign cytology. Magnetic resonance imaging (MRI) of the thorax revealed that the lesion had cystic components (Fig. 1) which therefore precluded the attempt for a CT-guided transthoracic fine needle aspiration. Repeated serology for hydatidosis was negative. She was referred to the thoracic surgery department for a diagnostic thoracotomy. At the operation, a frozen biopsy was made from the solid mass and it was reported as a benign sample. Thus, a wedge-resection of the lesion was performed. She was discharged after an uneventful postoperative period of 6 days. Gross pathologic findings showed that the tumor had a well-demarcated margin with a white-grey cut surface and

Fig. 1. High signal intensity on both T1W and T2W images on thoracic MRI, indicating cystic nature of the lesion with high protein content of internal fluid.
containing cystic components, 1–2 mm in diameter. Microscopically it consisted of cells with uniform ovoid, spindle-shaped nuclei and their cytoplasm had indistinct cellular borders (Fig. 2). Immunohistochemically, spindle cells were positively stained with S-100 protein, vimentin and smooth muscle actin. It was negative for desmin, synaptophysin, Leu-7, neuron specific enolase and CD-34. Epithelial lining cells were found to be positive for cytokeratin. All these findings indicated myoepithelioma of the lung. With a follow-up period of 2 years, no radiological and clinical evidence of recurrence was noted.

2. Discussion

Myoepithelial tumors occur mainly in the salivary glands or in the breast, but uncommonly in the lung [3]. Mixed tumors arising from the salivary glands and from the skin are well described entities [4]. In general, these tumors are characterized morphologically as well-circumscribed lesions exhibiting epithelial and/or myoepithelial elements in varying proportions within a hyalinized to chondromyxoid stroma [5,6]. It has been proposed that this histological complexity in mixed tumors is due to ability of myoepithelial cells to differentiate along many different cell lines. Those tumors, which are composed almost entirely of myoepithelial cells bearing close resemblance to the myoepithelial cells of pleomorphic adenoma and which are devoid of epithelial ductular differentiation, are referred to as myoepithelioma [7].

In 1987, Strickler et al. [8] reported the first case of a myoepithelioma occurring in the lung. That neoplasm showed histological features identical to those described in myoepitheliomas of major and minor salivary glands. In that case, the histological diagnosis was confirmed ultrastructurally by the presence of longitudinal cytoplasmic bundles of 6 mm myofilaments and immunologically by the expression of S-100 protein. In a review of rare pulmonary tumors reported by Sekine et al. [9], myoepithelioma was noted in one of 32 cases. Higashiyama et al. [3] reported two cases of myoepithelioma of the lung with endobronchial growth pattern. After surgery, metastasis occurred in the forearm and hip muscles in one case and in the liver in the other case, indicating the necessity for a close follow-up.

References


