
Alveolar Adenoma: A Rare Benign Tumor of The Lung

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SUMMARY

The alveolar adenoma is a rare benign tumor of the lung. A small number of cases were published in the literature. This report presents a case of alveolar adenoma. A 51 years old woman was admitted with complaint of chest pain present for 3 months. Her chest radiograph showed a solitary pulmonary nodule in right upper lung. Computed tomography of the thorax demonstrated a well-circumscribed solitary pulmonary nodule with a diameter of 1.8 cm in the posterior segment of right upper lobe, which was localized paravertebrally. Fiberoptic bronchoscopy and computed tomography guided transthoracic fine needle aspiration biopsy of the pulmonary nodule were nondiagnostic. The patient underwent thoracotomy and the tumor was seen in the posterior segment of right upper lobe. Wedge resection was performed after frozen-section diagnosis of a benign lesion. The pathologic diagnosis was alveolar adenoma of the lung. No recurrence was detected by the end of 2 years.

Key Words: Alveolar adenoma, lung.

ÖZET

Alveoler Adenom: Akciğerin Nadir Benign Tümörü

Alveoler adenom, akciğerin nadir, benign bir tümürüdür. Literatürde yayınlanmış az sayıda olgu vardır. Bu makale, bir alveoler adenom olgusunu sunmaktadır. Ellibir yaşında kadın hasta, 3 aydır devam eden göğüs ağrısı yakınması ile başvurdu. Göğüs grafisinde sağ üst akciğer bölgesinde soliter pulmoner nodül vardı. Toraks bilgisayarlı tomografisi sağ üst lob posterior segmentte, paravertebral olarak lokalize 1.8 cm çapında soliter pulmoner nodülü gösteriyordu. Fiberoptik bronkoskopi ve lezyonun bilgisayarlı tomografi eşliğinde transtoraksik ince iğne aspirasyon biyopsisi tanısal değildi. Torakotomide sağ üst lob posterior segmentte tümör görüldü. Frozen ile benign lezyon tanısı sonrası, wedge rezeksiyon uygulandı. Patolojik tanı akciğerin alveoler adenomu idi. İki yıllık takip sonrası nüks saptanmadı.

Anahtar Kelimeler: Alveoler adenom, akciğer.

The alveolar adenoma is an unusual benign tumor of the lung (1,2). The first description, based on 6 cases, was published in 1986 (3). It has unique histologic features, which should be distinguished from those of sclerosing hemangioma, lymphangioma, and bronchioloalveolar carcinoma (3,4). Histologically, it consists of numerous variably sized cystic spaces lined by cuboidal or flattened epithelium without cytologic atypia (2,3,5,6). There was proliferation of alveolar epithelium and septal mesenchyme (5,6). It is shown more frequently in middle-aged women and most of the cases are asymptomatic (3,7). Alveolar adenoma demonstrates a solitary, circumscribed, peripheral pulmonary nodule (2). A small number of cases were published in the English literature. We presented a case of alveolar adenoma in this report.

A CASE REPORT

A 51 years old woman was admitted with complaint of chest pain present for 3 months in September 1997. She is a nonsmoker house-wife. In September 1997 a chest radiograph showed a solitary pulmonary nodule in right upper lung. Beta-lactam antibiotic was given for 14 days. On admission her body temperature was 36.8°C, pulse rate was 90/min, blood pressure was 135/75 mmHg, and respiratory rate was 18/min. There was not any pathologic finding in physical examination. Peripheral blood examination, routine biochemical tests and urine analysis were within normal limits. Erythrocyte sedimentation rate was 25 mm in first hour. Tuberculin skin test was 11 mm. Three sputum samples were negative for acid-fast bacilli. Computed tomography (CT) of the thorax demonstrated a well-circumscribed solitary pulmonary nodule with a diameter of 1.8 cm in the posterior segment of right upper lobe, which was localized paravertebrally (Figure 1). Fiberoptic bronchoscopy examination showed normal appearance. CT-guided transthoracic fine needle aspiration biopsy of the pulmonary nodule was nondiagnostic. The patient underwent thoracotomy and the tumor was seen in the posterior segment of right upper lobe. Wedge resection was performed after frozen-section diagnosis of a benign lesion. The resection specimen contained

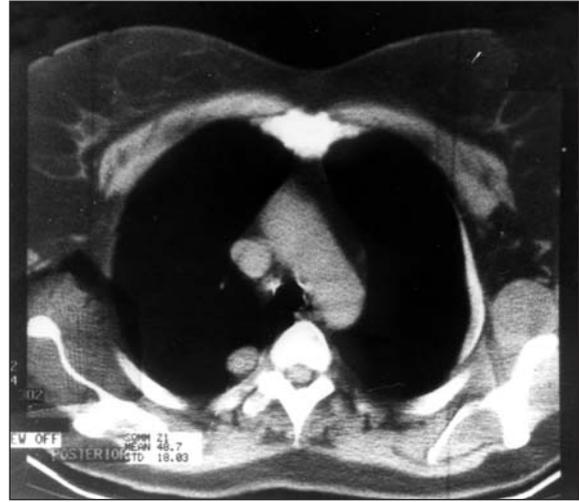


Figure 1. CT of the thorax demonstrated a well-circumscribed solitary pulmonary nodule in posterior segment of right upper lobe, which was localized paravertebrally.

ined a well-defined tumor mass measuring 18 x 10 x 15 mm and easily shelled-out from the adjacent pulmonary parenchyma. The tumor was demarcated with multiple cystic spaces in myxoid stroma. Most of the cystic spaces were lined by cuboidal epithelium without cytologic atypia. Some cystic spaces contained granular material (Figure 2). It had positive staining for epithelial membrane antigen (EMA). The patho-

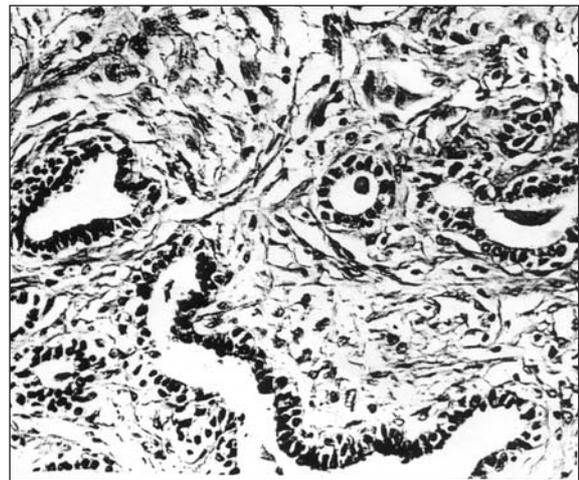


Figure 2. There are multiple cystic spaces in myxoid stroma. Many of the cystic spaces are lined by hyperplastic cuboidal epithelium without cytologic atypia. Some cystic spaces contain granular material (hematoxylin and eosin, original magnification x 400).

logic diagnosis was alveolar adenoma of the lung. No recurrence was detected by the end of 2 years.

DISCUSSION

The present case was a nonsmoker middle-aged woman. Alveolar adenoma is seen more frequently in middle-aged women (2,4,7). There were nine women and seven men cases with a mean age of 53 years in a previous series (2). Although most of those cases were asymptomatic, our case had chest pain present for 3 months (2). The present case demonstrated a solitary pulmonary nodule in right upper lung. CT scan of the thorax showed that the lesion localized in posterior segment of right upper lobe, which was localized paravertebrally. Solitary pulmonary nodule is the most frequent radiologic feature in cases with alveolar adenoma (2,5,8). Burke et al, reported that chest radiograph revealed a solitary pulmonary nodule in 10 of 17 cases (2). Other radiographic findings were coin lesion, hilar mass, shadow, and solitary mass in this series.

In our case, preoperative diagnostic examinations including fiberoptic bronchoscopy and TFNA were nondiagnostic and the histopathologic diagnosis was obtained by thoracotomy. It was reported that preoperative diagnostic methods were not helpful in the diagnosis of alveolar adenoma (2,3). The alveolar adenoma has unique histopathological and immunohistochemical features (1-3). It is a tumor in which the normal parenchymal architecture is imitated by a proliferation of both the alveolar epithelial cells and the mesenchymal septal cells (2). Most of the epithelial cells are type 2 pneumocytes, and the interstitial stromal cells are fibroblasts or fibroblast-like cells (1,2,4). Histopathologic examination of our case demonstrated the alveolar adenoma. The tumor was demarcated with multiple cystic spaces containing granular material. There was no atypia. It had positive staining for EMA. The patient was followed-up for 2 years and no evidence of recurrence was detected.

There was no evidence of recurrence of the tumor following resection in previous series (2,3). Follow-up data available in five cases showed no recurrence at 2, 2, 5, 8, and 13 years (2).

In conclusion, alveolar adenoma is a rare tumor of the lung and has unique histological features. It should be included in differential diagnosis of solitary pulmonary nodules.

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