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Case Report / Olgu Sunumu

Mucous gland adenoma of the bronchus: a case report

Bronş müköz bezi adenomu: Bir olgu sunumu

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Mucous gland adenoma is an extremely rare, benign, predominantly exophytic tumor of the tracheobronchial seromucinous glands and ducts. In this article, we report a case of mucous gland adenoma arising from the left upper lobe bronchus, which was initially misdiagnosed as pneumonia in the light of literature review.

Key words: Benign; bronchial adenoma; mucous gland adenoma.

Müköz bezi adenomu, çoğunlukla trakeobronşiyal seromüsinöz bezi ve duktusların son derece nadir, benign, egzofitik bir tümörüdür. Bu yazıda, başlangıçta pnömoni olarak değerlendirilen, sol üst lob bronşundan kaynaklanan bir müköz bezi adenomu olgusu literatür incelemesi eşliğinde sunuldu.

Anahtar sözcükler: Benign; bronş adenomu; müköz bezi adenomu.

Mucous gland adenoma (MGA) is an extremely rare tumor that arises from the bronchial mucous glands and usually presents as pedunculated or sessile polyps in the lumen of larger bronchi.[1] This type of tumor is truly benign. It can cause obstruction and hemoptysis, but it doesn't extend below the cartilaginous layer of the bronchial wall, and there is no invasive growth or metastasis.[2] We present a case of MGA arising from the left upper bronchus which was successfully treated by surgical resection.

CASE REPORT

A 52-year-old man was admitted to our hospital with a three-month history of atelectasis and recurrent pneumonitis of the left upper lobe in June of 2008. He had a productive cough but no hemoptysis at the time of admission. His past history was unremarkable. He smoked 72 packs of cigarettes a year until two months prior to his admission. The physical examination was normal. A chest X-ray revealed left upper lobe atelectasis and a hilar density with a fluffy infiltrate adjacent to its periphery (Figure 1a). Chest computed tomography (CT) showed an obstructive lesion in the left upper lobe bronchus (Figure 1b). A bronchoscopic examination revealed a pedunculated papillary lesion obstructing the apicoposterior segment of the left upper lobe bronchus. A biopsy specimen was suggestive of bronchial mucosa and showed severe squamous dysplasia. A left upper lobectomy and mediastinal lymph node dissection was performed via posterolateral thoracotomy in June of 2008. Postoperative pathologic examination identified mucus gland adenoma of the bronchus. The postoperative course was complete and uneventful. Fifteen months after the surgery, there was no sign of tumor relapse, and the patient was asymptomatic.

In the pathologic findings, a gross examination of the left upper lobe revealed that the apicoposterior segment bronchus was occluded by a polypoid, well-circumscribed mass of approximately 1.1 cm in diameter. The tumoral mass projected into the lumen and attached to the bronchial wall with a broad base. The lymph nodes showed reactive inflammatory changes.

A microscopic examination revealed a tumor prominent into the bronchial lumen that was covered by regular respiratory epithelial cells. The tumor, composed of glandular structures, was partially surrounded by mucinous epithelium (Figure 2a). Glandular and tubular spaces were covered by mucus-secreting cuboidal and

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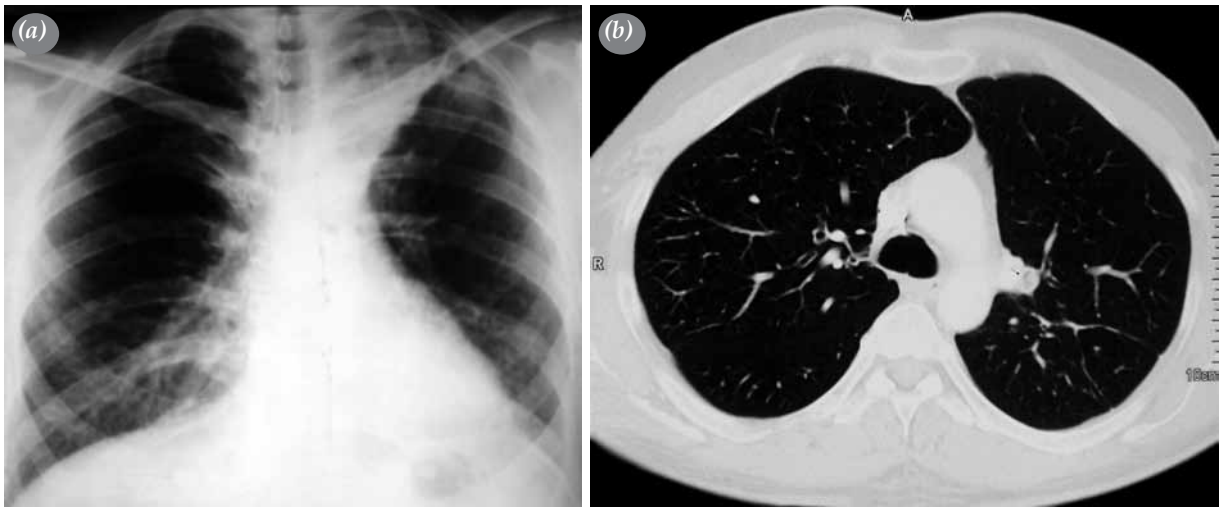

Figure 1. (a) A chest X-ray revealed left upper lobe atelectasis. **(b)** Chest computed tomography showed an obstructive lesion (air-meniscus sign) in the left upper lobe bronchus.

columnar epithelial cells filled with mucus (Figure 2b). There were no mitotic figures nor was there any evidence of invasion.

DISCUSSION

Mucous gland adenoma of the bronchus is a rare tumor arising from the bronchial mucous gland with limited representations in the literature.[1,3] We could only find 35 cases of MGA that have been reported. The first case of "bronchial adenoma arising in mucous glands" was described by Ramsey and Reimann[4] in 1953. In 1967, Kroe and Pitcock[5] named this entity "bronchial mucous gland adenoma" which best describes the case.

In the previously published cases of MGA, the ages at the beginning of treatment ranged from seven to 77, with a mean of 54 years. The ratio of males to females was found to be about 2:1. Most of the tumors were in the mainstem airways and trachea, and of these, only one was peripheral. The right and left sides were affected equally. The common symptoms were cough, hemoptysis, recurrent and protracted pneumonia, shortness of breath, and wheezing. The duration of

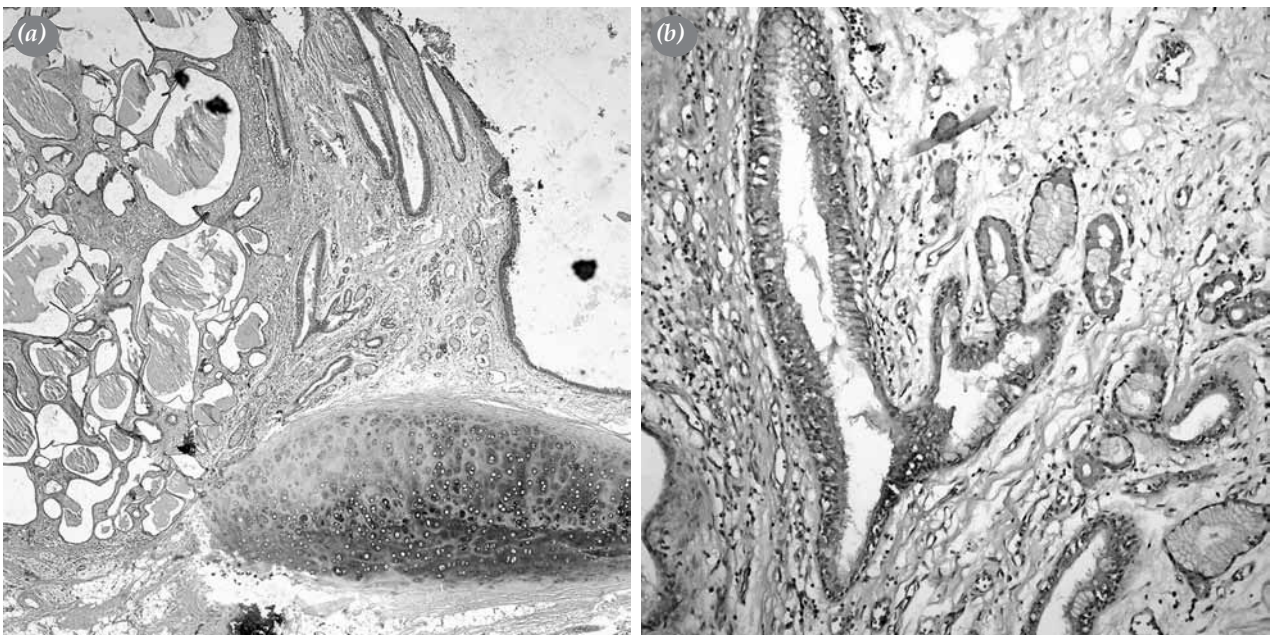

Figure 2. (a) A well-circumscribed mass was seen in the lung parenchyma, (H-E x 30). **(b)** A tumor composed of glandular structures which were partially surrounded by mucinous epithelium, (H-E x 115).

symptoms prior to diagnosis varied from a few weeks to 10 years, with prolonged symptoms being usual.[1,5,6]

The presenting symptoms in our case are typical for an endobronchial polypoid tumor. The polypoid growth is more likely to obstruct the lumen and can cause recurrent pneumonia.[1,6] The symptoms of an endobronchial tumor primarily depend on mechanical factors rather than on the pathologic characteristics of the tumor itself. Furthermore, the diagnosis of these tumors is not always easy. Routine chest roentgenograms are not diagnostic.[7] Our patient's first chest radiographic findings included atelectasis and focal areas of pneumonic consolidation. Tomographic studies of the central airways often reveal an obstructing lesion. Mucous gland adenoma of the bronchus is a well-defined, intraluminal mass that manifests on CT by demonstrating the air-meniscus sign or by abutting the bronchus.[8] The tumor in our case was discovered incidentally by a CT scan.

In the case of MGA, bronchoscopic examination is a definitive investigation. Generally, the diagnosis is made by a bronchoscopic biopsy, but making a histological diagnosis is not always easy because only normal mucosa covering the tumor is obtained.[7] As a matter of fact, in the present case, the bronchoscopic biopsy was not helpful in confirming the diagnosis. Therefore, it was essential to resect the tumor completely to confirm the diagnosis and determine the proper curative therapy. A lobectomy was necessary because of severe inflammatory lesions and bronchiectatic changes in the parenchyma.

The nomenclature applied to this tumor requires clarification. Mucous gland adenoma has previously been included in a group of tumors under the heading of "bronchial adenoma". This group contained carcinoids, cylindromas, mucoepidermoid tumors, and mucous gland adenomas.[6] These tumors have clearly shown low-grade malignancy potential and are capable of local invasion, recurrence, and metastases, with an ability to metastasize to the regional lymph nodes. However, MGA, since it is entirely benign, does not have the same capabilities.[3] Nevertheless, some authors have pointed out the malignant proliferative potential of the tumor.[1,3,5-7] Four cases of malignant proliferative changes of the tumor[7] and two cases of recurrence after local excision[5] have so far been reported.[7] There was no tumor recurrence in the outpatient 15 months after the surgery.

The treatment of choice is the complete excision of the mucous gland adenoma involving the bronchus or pulmonary segment or lobe.

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