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Tracheobronchial mucoid pseudotumor

Case Report

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Abstract: The topic of large mucoid plug of tracheobronchus simulating a tumor lacks scientific research and publication. We report such a case presenting as a pseudo-tumor in an elderly population. The plug was easily removed with a flexible bronchoscope. Microscopically, neither malignant cells nor microbial agents were present in the mucoid plug, confirming the diagnosis of a mucoid pseudotumor. If a collection of mucus, indistinguishable from a true tumor, is detected in the tracheobronchial tree particularly on CT scan, we should consider performing bronchoscopy, as such tracheobronchial mucoid pseudotumor may be distinguished from true tumors by this procedure.

Keywords: *Mucoid pseudotumor • Tracheobronchus*

1. Introduction

Polyploidy lesion in tracheobronchus has been observed in some patients with infectious or tumorous diseases [1,2,5-18]. However, large and long mucoid plug of tracheobronchus simulating a tumor has been rarely reported [1,2]. We report herein an elderly case with large and long mucoid plug of tracheobronchus simulating a tumor. To establish the correct diagnosis of endobronchial polypoid lesions, and to remove them transbronchially, fiberoptic bronchoscopic procedures are mandatory.

2. Case report

An 84-year-old man was admitted for evaluation for cough for 8 months. He had a history of smoking 20 cigarettes per day for 45 years, but stopped smoking at the age of 74. His breath sounds were normal bilaterally with no crackles. A complete blood count revealed a hemoglobin level of 12.6 g/dL and a platelet count of 201,000/μL. White blood cell count was 6,900/μL and C-reactive protein 0.27 mg/mL. A chest radiograph revealed no abnormal shadow, but CT scan revealed a mass-like opacity within the lower part of trachea and left main bronchus attached to the posterior wall (Figure 1 and 2). Bronchoscopy, performed because of possible primary tracheobronchial neoplasm, revealed a mass-like mucoid plug within the lower part of trachea

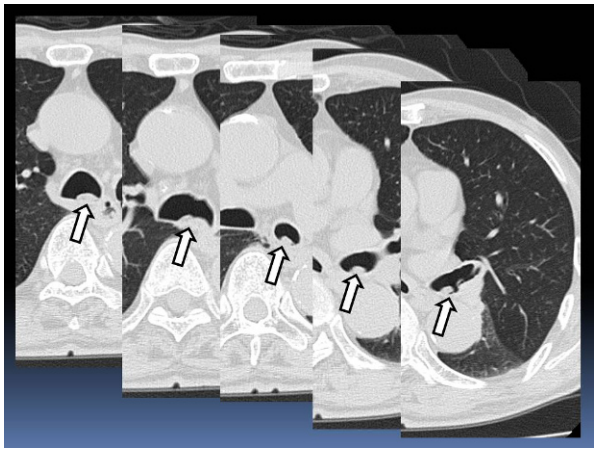

Figure 1. CT scan revealed a mass-like opacity within the lower part of trachea and left main bronchus attached to the posterior wall.

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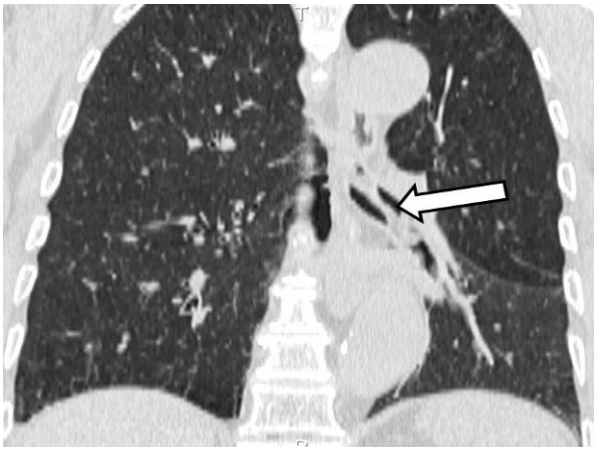

Figure 2. Coronal CT also revealed a large and long mass-like opacity in trachea and left main bronchus.

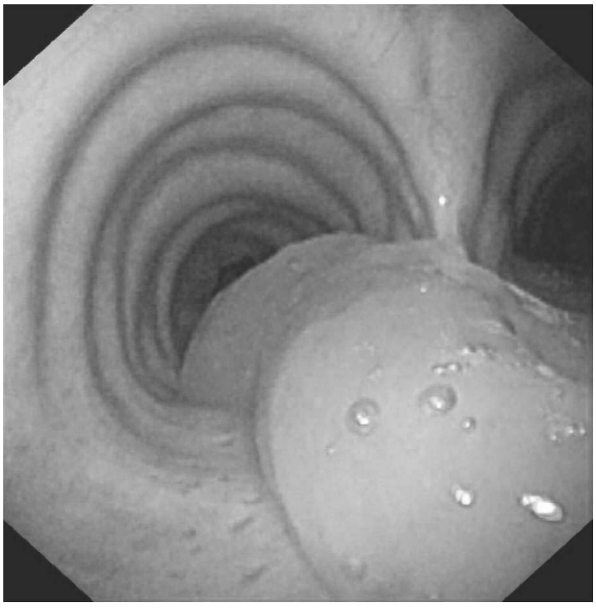

Figure 3. Bronchoscopy revealed a mass-like mucoid plug within the lower part of trachea and it continued up to the left upper lobe bronchus.

and the inspissated plug continued up to the left upper lobe bronchus (Figure 3). Using biopsy forceps under fiberoptic bronchoscopy, it was completely removed, although it was broken into pieces at the time of its removal. There was no distal disease in the left upper lobe bronchus. Microscopically, neither malignant cells nor microbial agents were present in the mucus collection, confirming the diagnosis of a mucoid pseudotumor. The patient has been in favorable health for 2 years thereafter.

3. Discussion

Abnormal mucus formation, composition, or transport, which can be precipitated by smoking, may result in the formation of a "mucoid pseudotumor" and precede abnormal respiratory function in the lungs [3,4]. A mucus collection seen radiologically in the tracheobronchial tree can closely resemble a polypoid mass. However, a large and long mucoid impaction of the tracheobronchus simulating a tumor has rarely reported [1,2].

With regard to the endobronchial polypoid lesion, we must rule out diseases such as primary lung cancer [5], endobronchial pseudotumor (inflammatory myofibroblastic tumor) [6,7], thymoma [8,9], fungal infection [10,11], and metastatic endobronchial tumors [12-15]. In primary lung cancer, endobronchial polypoid lesions are observed in patients with squamous cell carcinoma. In these cases, necrotic lesions covering the endobronchial tumor are usually observed. Endobronchial metastatic tumors are uncommon, however, these are observed in renal cells, breast tissue and colorectal carcinoma, or melanoma [12-14]. Hamer et al recently describes an unusual case of endobronchial metastasis from an adenocarcinoma of the cervix associated with marked mucin production, which resulted in extensive mucoid impaction [15].

A precise mechanism of a large and long mucoid plug in our patient was unclear. The patient was an elderly man with a smoking habit, who ceased smoking 10 years before this episode. He had no medical history of chronic respiratory diseases such as chronic obstructive pulmonary disease, bronchial asthma, or bronchiectasis. In addition, he ambulated well, and had no episodes of aspiration pneumonia.

In the removal of endothelial polypoid lesions, there are several methods including removal by biopsy forceps, by suctioning through fiberscope. And if the lesions are too large to remove through the upper airway, photodynamic procedures such as razer therapy and endoscopic electrosurgery can be used to tear them off [16,17]. In our patient, we used biopsy forceps and removed the mucoid plug after tearing it off by the biopsy forceps under flexible bronchoscope. Kamin et al reported a case with easy removal of a large mucus plug with a flexible bronchoscope after administration of deoxyribonuclease, because extraction of the cast via the suction channel of the bronchoscope had failed [18].

In summary, we should consider performing fiberoptic bronchoscopy, if large and long endobronchial polypoid lesions are detected on chest CT scan. To establish the correct diagnosis using materials obtained from the lesions, pathological and microbiological evaluation are required even in rare diseases such as mucoid pseudotumor as observed in our case.

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