Long-Term Productive Cough Caused by Tracheal Bronchus

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Abstract

We presented a 27-year-old man with a long-term productive cough and intermittent pneumonia without a remarkable medical history. Bronchoscopy revealed one tracheal bronchus with a narrow orifice. The patient’s symptoms were later adequately controlled by mucolytics alone.

Keywords: Trachea, anatomy, infection

Introduction

A congenital anomaly of the trachea was quite rare. Trachea bronchus is one of the rare anomalies. A patient with such an anomaly may predispose to stenosis of the aberrant bronchus. Bronchus suis (or pig bronchus, or porcine bronchus) indicated the same anatomical anomaly because, in some animals, such anatomy is normal [1]. The estimated incidence is less than 0.5% and the clinical presentation ranged from silent to very malignant [2].

Case report

A 27-year-old man presented a productive cough for many years. He denied a history of smoking and other pulmonary disease in the past. In recent months, the patient complained that the extent of the productive cough became more and more severe. He has had a fever and chills at times in recent months. He stated that when a lot of sticky and nasty sputum was expectorated out, his symptoms resolved. Because of more and more frequent episodes and because the patient has a foreign body sensation in the respiratory tract, the patient came to our outpatient department for help. Breath sounds were clear. A chest radiograph showed increased infiltrates bilaterally, but no patch was seen. Bronchoscopy showed one aberrant orifice in the right lateral wall of the trachea just above the carina level (Figure 1). A bronchoscope could not be placed into the orifice because of a narrow opening. On approaching the orifice, he expectorated some sputum from the orifice. Subsequent computed tomography showed aberrant bronchus originating from the right lateral tracheal wall with a narrow orifice (Figure 2A and 2B). With mucolytic agents, the patient’s productive cough improved and he has had no fever after a follow-up of one year.
Tracheal bronchus is an aberrant bronchus arising from the trachea. It mostly arises from the right side and was incidentally found by bronchoscopy for a variety of reasons [3]. Most symptomatic patients are diagnosed as having such an anomaly in their childhood [2]. Pneumonia and atelectasis are common complications caused by such abnormality. When persistent infection is caused by such abnormality and when the response to medical treatment is inadequate, resection may be needed. In this patient reported, his symptoms improved after medical treatment alone. Since this is an anatomical variation, any disease in the lung may arise from the anomaly, including neoplasm, abscess, pneumonia, tuberculosis, etc. Prior study has showed that the anomaly is more common in men and usually in the right lateral wall of the trachea [1]. Lung cancer in tracheal bronchus was also reported [4]. When recurrent pneumonia or atelectasis occurs in a certain area, especially in the right side, tracheal bronchus with a narrow opening should be included in one of differentia diagnoses. The diagnosis and its classification of such an anomaly was based on bronchoscopy exams. The proposed classification of tracheal bronchus included vestigial tracheal diverticulum, a high apical lobe and fully developed supranumerary aerated tracheal bronchus [1]. In the case we reported, he has no other anomaly in the tracheobronchial tree and should be classified as the last type.

Resection of such abnormality is indicated in patients with poor response to medical treatment [5]. The principle of surgical treatment is identical to our routine procedures, including resection of the aberrant bronchus as well as the lobe it supplies.

Conflict of interest statement
The authors do not declare any conflict of interest or financial support in this study.

References: