Case report

Foreign body in tracheal bronchus simulating bronchogenic cancer

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Received 12 February 2001; received in revised form 11 May 2001; accepted 31 May 2001

Abstract

A foreign body in the bronchial tree may mimic many pathological conditions. We present a case of a 62-year-old patient with a foreign body in the tracheal bronchus simulating bronchogenic cancer. After the removal of the foreign body, there has been a gradual regression of the foreign body induced inflammatory changes. To the best of our knowledge, a similar case has not been reported in the English medical literature.

Keywords: Tracheal bronchus; Foreign body; Malignancy

1. Case report

A 62-year-old man, ex-smoker, complained of cough and shortness of breath and subsequently a chest X-ray (Fig. 1a) and computed tomography (CT) scan (Fig. 1b) revealed right para-tracheal mass. Bronchoscopy by a chest physician in January 2000 was reported to show a tumor in the tracheal bronchus but a biopsy had failed to confirm the diagnosis. He was referred to us for further evaluation in February 2000, with a view to resection. Bronchoscopy (Fig. 1c) showed tracheal bronchus about 1.5 cm proximal to the carina on the right side of the trachea. It looked like a slit with inflamed margins. A metallic foreign body about 0.3 × 0.2 cm² was impacted deep within the tracheal bronchus, which was removed. There was no obvious tumor visible. The right upper lobe bronchus had two segmental bronchi only. Bronchial washings, brushings, and biopsies once again ruled out any evidence of malignancy.

Even on close questioning, the patient denied any history of foreign body inhalation or any episode of choking. However, he admitted to having recurrent chest infections in the past, which were managed with courses of antibiotics. His serial clinical and radiological assessments showed gradual improvement. His repeat chest X-ray (Fig. 2a) and the CT scan of the chest (Fig. 2b) in September 2000 were consistent with regressing inflammatory changes. At surveillance bronchoscopy, there was no evidence of tumor or inflammation visible in the tracheal bronchus. On his recent outpatient review, he is continuing to remain well 12 months after the initial presentation.

2. Discussion

Tracheal bronchus or ‘pig bronchus’ was first described by Chiari in 1889 [1]. The term is used to designate any bronchus originating from the trachea above the level of the main carina, but it is usually within 2 cm range with an incidence ranging from 0.1 to 2% [2].

It could be displaced or supernumerary depending on the numbers of the segmental bronchi of the anatomic right upper lobe bronchus. Our patient had displaced type of tracheal bronchus. Tracheal bronchus is a normal finding in sheep, swine, cattle, camels, goats, and giraffes but is rare in humans.

It has been stated that ‘once identified, the tracheal bronchus has no particular significance’ [3]. In many cases this is true and it is an incidental finding on bronchoscopy. However, some patients may experience symptoms of recurrent pneumonia, chronic bronchitis, or bronchiectasis [4] caused by relatively poor local drainage of the involved bronchus. In these cases, surgical excision of the involved segment may be indicated [5].

In this case, we were faced with a diagnostic problem of foreign body induced manifestations in an unexpected site in the bronchial tree. Suspicion of malignancy arose due to long history of smoking, recurrent chest infections, an opacity on chest radiograph, and CT scan and endobronchial irregularity around the orifice of the tracheal bronchus on
bronchoscopy. Malignancy in relation to the tracheal bronchus is very rare and only few cases [6,7] are reported in the literature.

Foreign bodies are often aspirated into the airways of which about 55% [8] get impacted in the trachea or the right bronchial tree which is mainly due to anatomic configuration. Rarely one would expect a foreign body to be impacted in the tracheal bronchus but this has not been described.

The symptoms, morbidity, and mortality rates depend on the size, type, and location of the foreign body, with large objects in the glottis presenting the greatest emergency. However, in our case, the foreign body remained asymptomatic for unknown period of time till it produced changes due to obstruction and inflammation of the orifice of the tracheal bronchus simulating bronchogenic carcinoma.

Foreign body in the normal bronchial tree simulating malignancy has been described [9] but to the best of our knowledge, a similar case is not reported in the English medical literature. With this experience, we can suggest that clinicians need to be aware of this presentation as a similar case could easily be confused clinically with advanced bronchogenic malignancy.

References