Obstructive Pneumonia With Bronchial Foreign Body: A Case Report

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Case report

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Abstract

Background: Bronchial foreign bodies are relatively uncommon in adults. There are a variety of symptoms induced by airway foreign bodies, although the typical symptoms of some bronchial foreign bodies are cough, wheezing, chest pain, hemoptysis and fever up.

Case presentation: An 80-year-old Japanese man was referred to our hospital with symptom of 7-month history of cough and pneumonia. His chest radiograph showed a slight increase in opacity. His vital signs and his laboratory data were almost normal. Chest computed tomography revealed obstructive pneumonia and a bronchial foreign body. We performed bronchoscopy and detected a fish bone as an intrabronchial foreign body and finally removed it from the bronchi.

Conclusions:

It is very important to carefully perform medical consultation about the current and past medical history. People in some countries and regions such as Japan have a habit of eating fish. It is necessary to more carefully consider the possibility of some bronchial foreign body such as a fish bone, when we observe symptoms of persistent cough.

Background

Bronchial foreign bodies are relatively uncommon in adults. Many cases of endobronchial foreign bodies have been reported in the infants, and such cases was caused by accidental aspiration. In general, retrieved objects include seeds, nuts, small toys, coins, pins in children, and bone fragments, medical instrument fragments, drug and dental appliances in adults.

There are a variety of symptoms induced by airway foreign bodies, although the typical symptoms of some bronchial foreign bodies are cough, wheezing, chest pain, hemoptysis and fever up [1,2]. However, in some cases there are no symptoms. Therefore, it is very important to carefully perform medical consultation about the current and past medical history such as long-termed cough.

Case Presentation

An 80-year-old Japanese man was referred to our hospital with symptom of 7-month history of cough and pneumonia. He visited another hospital once due to persistent cough and was treated with antibiotics at that time. However, his symptom of cough was not improved. Therefore, he hesitated to visit a hospital because he had no symptoms except for persistent cough after then. Since he suddenly had neck pain for few weeks before, chest radiograph was taken. His chest radiograph showed a slight increase in opacity in the right lower lung (Figure 1A and 1B). His medical history was myocardial infarction at the age of 68 and percutaneous coronary intervention with stenting was placed. He had no remarkable family history. On admission, his vital signs were as follows: temperature, 35.9 °C; blood pressure, 126/64 mmHg; heart rate, 70 beats/min; oxygen saturation, 97 % (room air). His laboratory data

were as follows: white blood cell count, 8590 /μL (neutrophil, 70.5 %); red blood cell count, 455 ×10^4 /μL; hemoglobin, 14.1 g/dL; platelet, 18.4 /μL. Liver and renal function was almost within normal range as follows: asparate aminotransferase (AST), 18 U/L; alanine transaminase (ALT), 13 U/L; alkaline phosphatase (ALP) 219 U/L; γ-glutamyl transpeptidase (γ-GTP), 13 U/L; lactate dehydrogenase (LDH), 176 U/L; creatinine (CRE), 1.12 mg/dL; blood urea nitrogen (BUN), 20 mg/dL. Lung-associated data and tumor markers were as follows: cytokeratin 19 fragment (CYFRA), 1.7 ng/mL; pro-gastrin-releasing peptide (ProGRP), 49.9 pg/mL; QuantiFERON, negative; mycobacterium avium complex antibody, negative; carcinoembryonic antigen (CEA), 2.0 ng/mL; carbohydrate antigen 19-9 (CA19-9), 17.7 U/mL; prostate specific antigen (PSA), 1.401 ng/mL. As shown in Figure 1C-1F, chest computed tomography (CT) revealed obstructive pneumonia in the right lower lung and a bronchial foreign body.

The patient clearly remembered that aspiration was performed approximately 11 months before, because he was choked on eating yellowtail fish. Therefore, we considered that his intrabronchial calcified structure on chest CT could be a fish bone. We performed bronchoscopy and detected a fish bone as an intrabronchial foreign body in the right lower lung and finally removed it from the bronchi (Figure 2A-2C).

Discussion And Conclusions

Herein, we report a case of obstructive pneumonia with bronchial foreign body of fish bone with 7-month history of cough. There are several reports about obstructive pneumonia due to some bronchial foreign body. In general, airway foreign bodies are observed in children under 10 years of age and fish bones are the most common in Japan [3]. In addition, many cases of foreign body were infants and the elderly on worldwide [1]. Laryngeal and tracheal foreign bodies were 2-11% of all foreign bodies, and more peripheral foreign bodies under subglottic such as bronchial foreign body were about 10% of total laryngeal and tracheal foreign bodies. Moreover, 93% of such cases result in respiratory failure [4]. The typical symptoms of some bronchial foreign bodies are cough, wheezing, chest pain, hemoptysis and fever up [1,2], but in some cases there are no symptoms. In addition, it is sometimes difficult to detect such a foreign body on a chest radiograph [5,6], although some imaging tests are usually effective [7]. There are various kinds of bronchial foreign bodies depending on countries and regions, age and race, but many cases of adults are due to some bone such as chicken, pig and fish and many cases of children are due to peanuts [1,2].

This case report clearly indicates that it is very important to carefully perform medical consultation about the current and past medical history. Taken together, we should bear in mind the possibility of obstructive pneumonia due to some bronchial foreign body in such a situation where a subject was choked on eating. In addition, people in some countries and regions such as Japan have a habit of eating fish. It is necessary to more carefully consider the possibility of some bronchial foreign body such as a fish bone, when we observe symptoms of persistent cough, especially in patients who was choked on eating fish.

Declarations

Ethics approval and consent to participate:

Not applicable

Consent for publication:

Written informed consent was obtained from the patient.

Availability of data and material:

Not applicable

Competing interests:

We do not have any potential conflicts of interest relevant to this article.

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Authors' contributions:

Hi. T. and T.A. researched data and wrote the manuscript. Hu.T. researched data and contributed to the discussion. H.K., T.O., N.O. and K.T. reviewed the manuscript.

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Figures

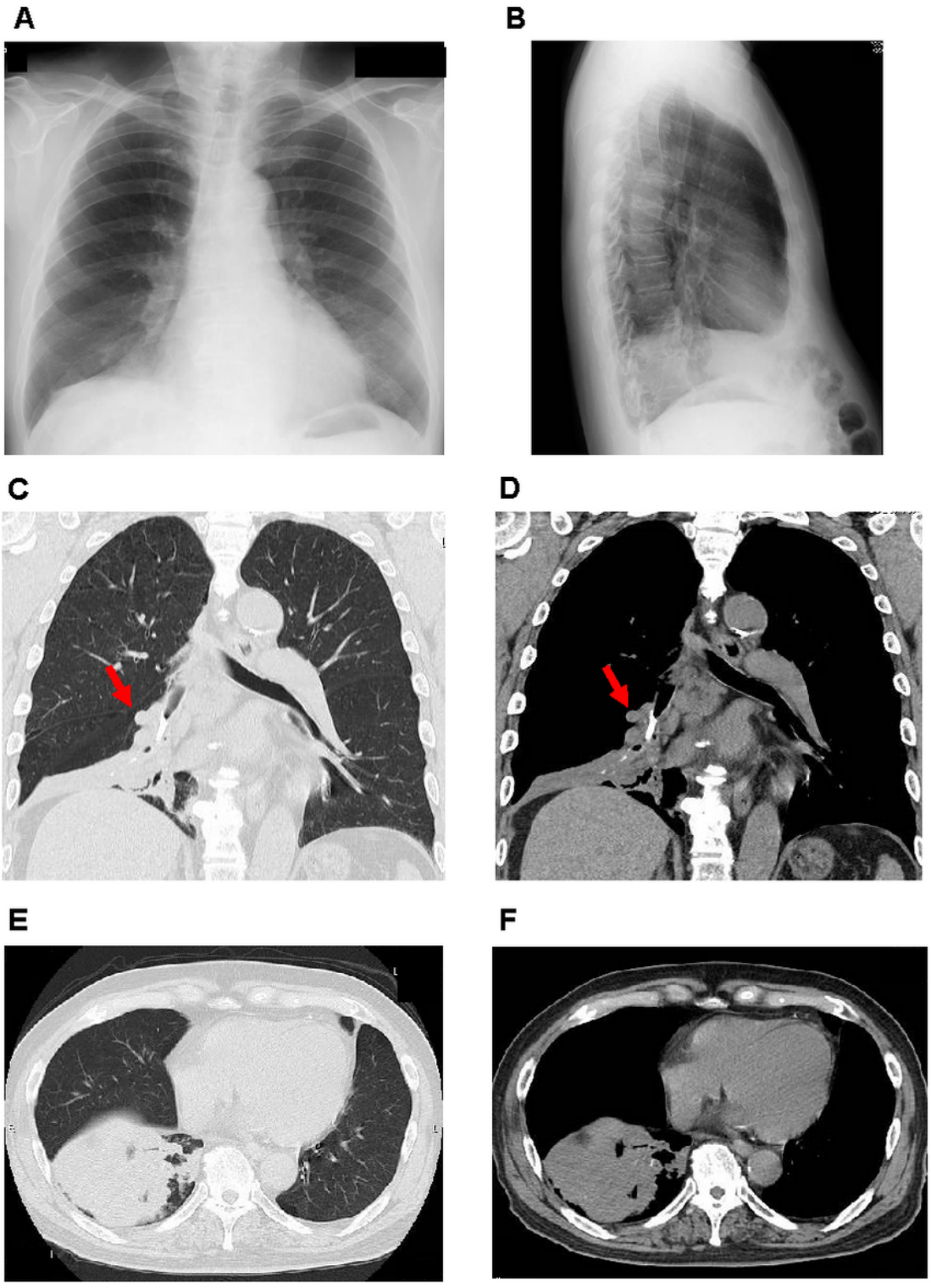

Figure 1

Findings in chest radiograph (A and B) and chest computed tomography (CT) (C-F). Chest radiograph showed the increase of opacity in the right lower lung. Chest CT revealed obstructive pneumonia in the right lower lung and bronchial foreign body (red arrow).

Figure 2

Findings in bronchoscopy. In bronchoscopy, a fish bone was detected as an intrabronchial foreign body in the right lower lung. A; An intrabronchial fish bone (black arrow). B; Intrabronchi after removal of a fish bone. C; A fish bone