Case report

An unusual intrapleural foreign body: ignored aspiration

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Abstract

A 54-year-old male patient was admitted to our department with fever, dyspnea and chest pain. Left pleural effusion and destroyed left lower lobe was noticed in his computerized chest tomography. After chest tube drainage, massive hemoptysis developed. An emergency thoracotomy was performed. A bronchopleural fistula, destroyed left lower lobe and the head of an oat were detected in the pleural space. Left lower lobectomy and perioperative pneumoperitoneum were performed. The patient had an uneventful postoperative course and was discharged on day 6. We present this case because of the rarity and to emphasize the clinical presentation. The physicians should be aware of life threatening complications of oat head aspiration.

Keywords: Intrapleural; Aspiration; Hemoptysis

1. Introduction

Thoracic empyema is defined as a purulent pleural effusion or an effusion with positive bacteriological cultures [1]. Most empyemas are the result of bacterial suppuration in adjacent structures; such as lung, mediastinum (esophagus, lymph nodes), chest wall, etc. [1]. Other potential causes of empyema are thoracentesis, chest tube insertion, penetrating chest injuries and subdiaphragmatic infection [2]. Foreign bodies in the pleural space causing empyema, which are not iatrogenic, are quite rare. Here we present a case report about unidirectional migration of the oat head to the periphery of the lung, causing destroyed lower lobe, bronchopleural fistula, empyema and hemoptysis.

2. Case report

A 54-year-old male patient was admitted to our department with fever, dyspnea and chest pain. Chest X-ray revealed left sided pleural effusion. Pleural effusion and destroyed lower lobe were noticed in his computerized chest tomography (CT) (Fig. 1). Fiberoptic bronchoscopy was performed and no endobronchial pathology was detected. We performed tube thoracostomy, and purulent pleural fluid was drained with negative bacteriological culture. Air leakage was noticed. A massive hemoptysis (850 ml) developed the day after the tube drainage. A left thoracotomy was performed after selective intubation. An unsuspected aspirated oat head and a bronchopleural fistula were discovered during decortication procedure (Fig. 2). Since the left lower lobe was destroyed, lower lobectomy was done. Obliteration of the infected pleural space was an important factor to prevent postlobectomy empyema. Thus pneumoperitoneum was performed to obliterate the inferior pleural space. Perioperative pneumoperitoneum was done by an incision on the diaphragm within a purse string suture, dilated and a 10-F feeding tube with a three-way stopcock was inserted below the diaphragm. With the help of a 50-ml syringe 1200 ml of air was injected into the peritoneum. The patient had an uneventful p.o. course, and was discharged on day 6 with antibiotics peroral for one more week. Pathological examination revealed bronchopneumonia with multiple abscesses inside. The patient was again asked for foreign body aspiration, and he remembered oat head aspiration while eating mulberry 8 months ago. The patient was followed up for 8 months, and he was free of any bronchopulmonary symptom.

3. Discussion

The complications of oat head aspiration was reported in the literature very rarely. Based on the findings in the biggest series which included only five cases, the complica-
tions of oat head aspiration were defined as: pneumothorax, pneumomediastinum, recurrent hemoptysis, chronic lung disease, bronchiectasis, lobectomy, bronchopleural and bronchocutaneous fistula, pleural effusion and empyema of the cavity [3].

Head of an oat moves unidirectionally, and children like to play with it. It is impossible to expectorate once aspirated because of the nature of the structure. Unidirectional movement of the oat head may explain possible mechanism of migration from the bronchus into the pleural space. Bronchopleural fistula could be explained by the oat head migration to the pleural space. This was supported by the finding of the fibrosis around the fistula. Therefore we were certain that the bronchopleural fistula was not iatrogenic. Moreover, the hemoptysis which was developed the day after the tube drainage, was the result of the abscess and bronchopneumonia since the exploration demonstrated no iatrogenic injury to the lung.

Although a few cases of oat head aspiration in childhood were reported, cases involving adult patients were very rare [3,4]. Our patient, a 54-year-old man, aspirated oat head while eating mulberry. Only one case report in adult population was presented in the literature [4]. The authors claimed that the oat head aspiration was a very rare event in adults and caused severe persistent empyema.

Even though it is rare, we recommend the surgeons to consider unexpected foreign body aspiration in empyema associated hemoptysis. The physicians should be aware of life threatening complications of oat head aspiration.

References