

## CASE REPORT

## Pistachios Are Not Always Delicious: An Interesting Aspiration

Ahmet Cemal Pazarlı, Ayşe Güler Havan

Clinic of Chest Disease, Elbistan State Hospital, Kahramanmaraş, Turkey

## Abstract

In order to prevent complications, it is important to identify and remove the foreign bodies aspirated into the respiratory system. Tracheobronchial foreign body aspiration is less common in adults than children. According to the total or partial occlusion of the respiratory tract, patients present with various signs and symptoms. It can be fatal if emergency intervention is not undertaken. A 44-year old female patient who developed respiratory distress due to pistachio shell aspiration and whose foreign body was removed by fiberoptic bronchoscopy is presented along with literature review.

**KEY WORDS:** Aspiration, foreign body, fiberoptic bronchoscopy**Received:** 11.04.2013**Accepted:** 24.05.2013**Available Online Date:** 31.06.2013

### INTRODUCTION

Tracheobronchial foreign body aspiration (TFBA) is an important life threatening clinical condition that requires emergency intervention. TFBA, although mostly seen in children, can be encountered at any age [1]. It is important to remove the foreign body quickly and safely, and to relieve the clinical symptoms of the patient in order to prevent the possible serious complications. While mostly rigid bronchoscopy is used to remove foreign bodies from the tracheobronchial system in children, both rigid and fiberoptic bronchoscopy (FOB) may be used in adults [2].

### CASE PRESENTATION

A 44 years old female patient stated that she had aspirated a pistachio shell while she was eating pistachio, when her grandson suddenly jumped on her lap. Following the aspiration, she had complaints of dyspnoea and cough gradually increasing day by day. There was no remarkable finding in the routine examinations, posteroanterior chest X-ray and thoracic computed tomography of the patient. Her physical examination revealed expiratory rhonchi at the right upper and middle zones. In fiberoptic bronchoscopy, a foreign body was identified in the distal part of the right intermediate bronchus (Figure 1a, b). The foreign body was removed by an alligator biopsy forceps without damaging the surrounding tissues; there were no complications or bleeding. The pistachio shell removed is presented in Picture 2. After the bronchoscopy, dyspnoea resolved and localized rhonchi detected in her physical examination disappeared. She received empirical nonspecific antibiotic treatment. She was discharged from the hospital after she was informed about her condition, and her informed consent was taken.

### DISCUSSION

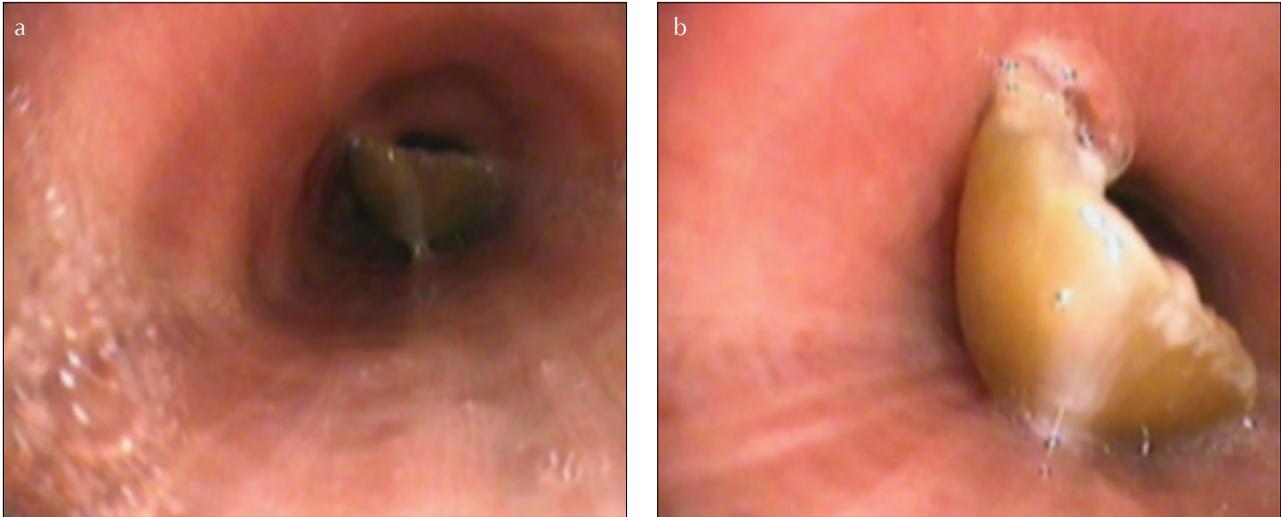
Foreign body aspiration is an important and serious clinical condition that may result in life-threatening complications. Although it can be encountered at any age, it is mostly seen in children under three years and those in the 1-3 age group [3]. Location of the foreign body in the airway is associated with the anatomical structure of the tracheobronchial tree and the posture of the individual during aspiration [2]. Most of the foreign bodies lodge in the right main stem bronchi and distal bronchi, as the right main bronchus is more vertically aligned and its diameter is wider compared to the left main bronchus [4,5]. The foreign body was detected in the distal part of the right intermediate bronchus in the case presented here.

The types and incidence of aspirated foreign bodies may vary across countries according to age, gender, occupation, cultural, social and economic situation, diet, and customs and traditions of the population [1]. While organic foreign bodies, and mostly dried fruits and their shells constitute (pistachio, nut shells etc.) most of the foreign bodies in industrially underdeveloped countries, it has been reported that the incidence of plastic foreign bodies is increased in industrialized countries in the recent years. In a study of Limper and Prakash [1], it was reported that the most common foreign body type was organic food particles. Paşaoğlu et al. [6] in their study in paediatric patients reported that the most fre-



**Address for Correspondence:** Ahmet Cemal Pazarlı, Clinic of Chest Disease, Elbistan State Hospital, Kahramanmaraş, Turkey  
Phone: +90 505 369 68 60 E-mail: cpazarli@hotmail.com

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**Figure 1. a, b.** A foreign body in the distal part of the right intermediate bronchus

quently aspirated foreign body was dried fruits, sunflower seed being the leading cause, with a rate of 21.5%. The aspirated foreign body was a pistachio shell in our case.

In the diagnosis of foreign body aspirations, patient anamnesis is very important. One or more than one of the symptoms and findings including cough, wheezing, dyspnoea and decreased breathing sounds on the involved site in respiratory system examination is present in 90% of the patients [7,8]. The most frequent complaint is cough. Cough is non-productive and irritating at first, it starts with attacks and lose its characteristics and severity by the lodgement of the foreign body in the bronchus [9,10]. In a study on TFBA, cough was seen in 68%, decreased breathing sounds in 56%, respiratory distress in 44% and cyanosis in 36% of the patients [11]. In the case presented herein, there were complaints of increasing dyspnoea and cough following aspiration.

The most important factors in diagnosis are detailed anamnesis, respiratory system examination and the accurate localization of the foreign body by the help of radiological methods. Chest X-rays taken from two positions before bronchoscopy generally show the accurate localization of the foreign body [12]. When TFBA is suspected, radiological imaging techniques should be used. If the foreign body is radiopaque, it can easily be detected by posteroanterior chest X-rays. However, in order to correctly locate and determine the size of the foreign body, lateral and oblique chest X-rays should also be taken, and if required thoracic computed tomography should also be obtained. [13]. A normal chest X-ray does not rule out foreign bodies, if the clinical suspicion remains bronchoscopic examination is inevitable. In our case, the diagnosis was made by patient anamnesis and no remarkable findings related to the foreign body or additional findings could be detected by imaging methods including posteroanterior chest X-ray and thoracic computed tomography.

The most contemporary treatment method for tracheobronchial foreign body aspirations is the removal of the foreign body by rigid bronchoscopy under general anaesthesia [5]. It is emphasized that all cases with a history of TFBA should



**Figure 2.** The pistachio shell that was removed by fiberoptic bronchoscopy.

undergo bronchoscopy, however, in order to prevent morbidity from foreign body aspirations that may be missed, some negative consequences are inevitable, but with sufficient experience and suitable patient selection, the success rate of FOB in TFBA is high [4,14,15]. As rigid bronchoscopy was not available in our centre, the foreign body identified in our patient, was removed successfully by fiberoptic bronchoscopy.

In conclusion, we are in the opinion that a history of foreign body aspiration should be meticulously questioned, respiratory system examination should be carefully performed, and in order to determine the localization of the foreign body, lateral chest X-rays should be taken besides posteroanterior chest X-rays, and if required computed tomography should be performed, and even if foreign body cannot be detected by imaging techniques, all cases with a history of foreign body aspiration, suspicion and physical examination findings, should undergo bronchoscopic examination.

**Informed Consent:** Written informed consent was obtained from the patient presented in this case report.

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