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Case report

Pneumonia, lung cancer or Medlar's core?

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ABSTRACT

Here, we report a case of 57-year-old previously healthy man with six-months medical history of significant chronic cough and recurring episodes of fever. Cytology, bacteria, fungi and acid fast bacilli in the sputum were negative. CT scan, initially interpreted as suspected lung cancer, detected by chest x-ray, revealed pneumonia. Bronchoscopy is frequently necessary for the diagnosis as well as the treatment as a routine practice and in this case was applied. Our patient underwent to fiberoptic rigid bronchoscopy in the right upper lobe in general anaesthesia. Unexpectedly, a vegetal FB, Medlar's core instead a tumor, was removed. After two-months follow-up the patient was found healthy without any old or other symptoms.

1. Introduction

Foreign bodies (FB) is refer to any object that is placed in the ear, nose, mouth and breathing tract. FB not meant to be there, could cause harm without fast medical consideration. Therefore, it constitutes a medical emergency requiring immediate attention. The FB could be stuck in different places within the breathing tract. Usually, children under 4 years of age who tend to put everything's into their mouths undergoing to this kind of medical problems. The reasons why this happen are probably due to their curiosity versus objects or more simply because they do not have a full set of teeth or do not chew their food well when eating. The objects (usually seeds of fruit) lodged in the trachea or in breathing tract instead of esophagus [1,2]. Considering this the presence of FB as well as its aspiration from the bronchial tree is rarely observed in adults without an underlying disease. This uncommon occurrence may cause a wide diversity of symptoms such as chronic cough, fever and wheezing leading to a misdiagnosis of chronic pulmonary diseases [2]. Our report, here, want to bring attention for other physicians to consider, as a differential diagnosis, the possibility to have a bronchial FB either in adult people. Rapid diagnosis is highly associated with successful removal of the FB; however, diagnosis at an early stage does not always occur. Physicians do not frequently keep in mind that. In addition, FB does not have specific clinical manifestations. Is worth to note that, FB is a common problem occurring mostly in children under 4 years where FB appears radiolucent in the instrumental tests [3–5]. The severity of the symptoms during the chirurgical procedure to aspirate and remove a FB can be different depending on both site and nature of the FB. Herein, we describe a tricky case of a 57-year-old man misdiagnosed of asthmatic bronchitis for six months and lung cancer later on. So that, he was hospitalized for pneumonia and thoracic computed tomography (CT) scan showed an endobronchial lesion in the right upper lung lobe. A fiberoptic flexible bronchoscopy was performed and the medlar's core was detected in the right upper lobe. FB were removed by aspiration with a rigid bronchoscopy under general anesthesia.

2. Case report

A 57-year-old man with six-months medical history of significant chronic cough and recurring episodes of fever was admitted to

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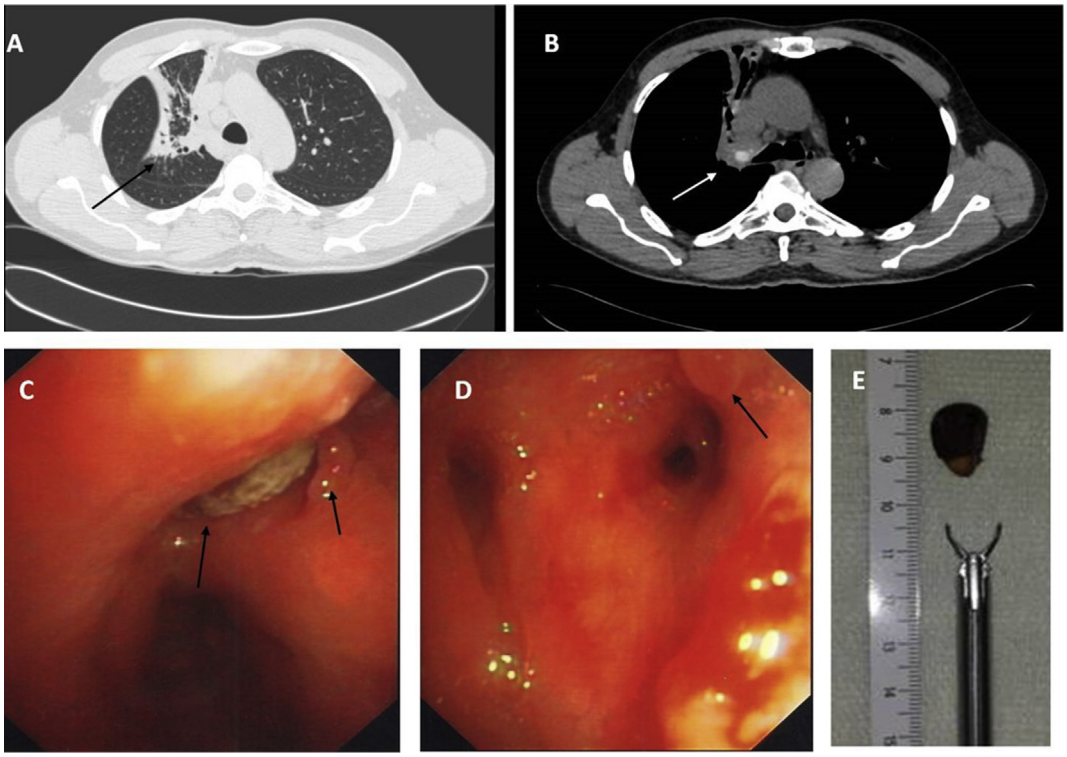

Fig. 1. Foreign body (FB) in the ostium at the right upper lobe bronchus with adjacent small granuloma. A–B) Thorax CT-scan highlights pneumonia in the right lung suggesting lymphadenopathy in the right side of the trachea (black and white arrows). C–D) Fiberoptic flexible bronchoscopy shows copious amounts of pus in the same zone. Mucus secretions were aspirated and the bronchial washings were collected for investigations. E) Medlar's core of about 15 mm.

the Emergency Unit complaining of fever, productive cough with yellowish colored sputum and chest discomfort with recumbency. The patient had undergone several cycles of antibiotic therapy in the six months prior to admission to the hospital, but had only temporarily benefitted from such treatments. The antibiotic therapy cycles, during this period were performed as follow: i) amoxicillin/clavulanic acid 875 mg/125 mg every 12 h for 7 days; ii) amoxicillin/clavulanic acid 875 mg/125 mg every 8 h for 7 days; iii) ceftriaxona 1 gr every 12 h for 5 days and iv) Cefixime 400 mg/dias plus clarithromycin 500 mg every 12 h, both for 6 days. The stop antibiotics treatment period was 1 month and a half between cycles. A chest x-ray revealed an opacity in the right lung and clinical sign made pneumonia diagnosis. The patient was then transferred to the Infectious Diseases Unit, where upon examination he was having 39 °C temperature, 110/70 mmHg blood pressure, heart rate at 110 beats per minute (he was tachycardic). The respiratory rate was 15 breaths per minute and the oxygen saturation was 96% on room air with the follow blood gas parameter: pH 7.41, PO_2 and PCO_2 values were 78 and 47 respectively. After a careful examination of his respiratory system, we revealed a decreasing in vesicular breath sounds and rales in the right infra scapular area. The lab tests showed only the following: total leukocyte count, having the normal range between 4000 and 11,000/mL, were 12,800/mL with no left shift. Normal haemoglobin and platelets levels as well as liver and renal function tests. Cytology, bacteria, fungi and acid fast bacilli (AFB) in the sputum were negative. The patient began therapy with intravenous antibiotics: meropenem, 1 gr tid plus levofloxacin, 500 mg every 24 h, the choose of those drugs with a lower dose for levoxacin, respect to the guideline, was made for two reason: i) resistance to amoxicillin/clavulanic acid and ii) body weight less than 70 Kg. In addition, the patient received mucolytics and rehydrating fluids. After three day of therapy, his cough and chest discomfort had not improved and only the fever disappeared. He underwent a CT-scan of the thorax that confirmed persistence of opacity in the right lung and suggested lymphadenopathy in the right side of the trachea (Fig. 1A,B). The CT scans, together with clinical futures and medical history, were initially interpreted as suspected lung cancer. The patient underwent fiberoptic flexible bronchoscopy and a vegetal FB (medlar's core) was detected in the right upper lobe; a significant granulomatous formation around the FB and copious amounts of pus in the same zone were observed

Table 1
Clinical sign and laboratory test including both complete blood count (CBC) and Biochemistry parameters before and after the removal of the Foreign body (FB).

Clinical and laboratory parameters		
	Before FB removal	After FB removal
CBC		
WBC	12,800	14,800
Neutrophils	10,500 (76%)	12,400 (83.9%)
Lymphocites	1500 (17.6%)	1500 (17.8%)
Monocytes	6.2 0,800	5,1 0,700
Eosinophils	0,1 0,0	0,1 0,0
Basophils	0,1 0,0	0,1 0,0
Fibrinogen	1479	506
PLT	400.000	340.000
HB	13 gr/dL	14,3 gr/dL
Biochemistry		
Glucose	103 mg/dl	101 mg/dl
Urea	19 mg/dl	21 mg/dl
Creatinine	0.98 mg/dl	1.00 mg/dl
Na	138 mM/L	136 mM/L
K	3.8 mM/L	3.9 mM/L
GOT	17 U/L	19 U/L
GPT	15 U/L	17 U/L
Clinical sign		
Cough	Yes	No
Chest discomfort	Yes	No

(Fig. 1C,D). Mucus secretions were aspirated and the bronchial washings were collected for investigations. Results of the bronchial wash were negative for AFB staining and culture, as well as for gram staining and culture. FB was removed by rigid bronchoscopy under general anesthesia (Fig. 1E). After removal of FB, the patient has followed a therapy with the aforementioned intravenous antibiotics as well as 20 mg bid of methylprednisolone. The complete blood count (CBC), after FB removal, showed an increase in white blood cells up to 13,800 and neutrophilia with no eosinophils and basophils alteration (typical of steroids therapy). The fibrinogen that before removal was 1479 mg/dL, dropped to 506 mg/dL. Others clinical laboratory data such as blood glucose, blood urea, creatinine, Na^+, K^+ and transaminase levels were all normal (Table 1). The patient's respiratory status improved drastically and he was discharged after 18 days of hospitalisation without complications. He was found to be healthy without any symptoms, after a two-month follow-up period where a new CT-scan of the thorax yielded normal results for the complete absence of opacity.

3. Discussion

In the case reported here, the patient medical history underline nor use of drugs, alcohol nor mental diseases clearly indicating that it is missing of all such risk factors. Six months before the patient had ingested the core of a medlar, referring it to the family physician, who reassure the patient and ignored the episode even when clinical symptoms such as chest discomfort, cough and fever start in it. Trusting to family physician he did not reported again the episode to anyone later either specialist or hospital physician. Therefore, his medical history failed to reveal the aspiration of a FB, inducing all in medical errors. Medical errors are often associated with poor communication as well as improper documentation. In this case, patient actions contribute significantly to that, leading to a misdiagnosis and resulting in an increase of healthcare cost for both patient and National Health System. The cough began after the incident and the family physician, treat the patient for anxiety disorder. A month later, he took chest-x ray (substantially normal), since he complained recurrent fevers and cough. Although, methacholine challenge test was not performed because the patient presented asthma-like symptoms and not asthma the specialists consulted, treated him for asthmatic bronchitis even if the patient was not a smoker and not suffered of allergy [6]. Only flexible bronchoscopy was able to detect FB that was subsequently removed with rigid bronchoscopy without any complications and only in that moment patient recall the ingestion of medlar's core. Providing anxiety-related care as well as asthma-related care to individuals who do not need it is a misuse of public resources. This diminishes also the opportunity to examine the underlying pathology behind the individual, which may increase future risk associated with untreated disease.

This case wants to highlights how is important to reiterate that not all the patients with a retained foreign body in the bronchial tree cite and report specific symptoms. The eighty percent of FB ingestion occur during childhood and a long-standing undetected foreign body in the bronchus of an adult is a very rare medical condition [4,5]. So that, for clinical practice adults treated pharmacologically for unexplained chronic cough, reporting or not a history of FB ingestion, there is the possibility to be in front of a pulmonary FB presence that should considered and be keep in mind. With these considerations, the uncommon clinical case reported here underline as an accurate history and a better clinical evaluation could prompt to a rapid diagnosis without an increase in health costs.

4. Conclusion

In our case, a respiratory complication (pneumonia) fortunately revealed the presence of an endobronchial FB in a previously healthy adult patient. FB should be suspected in adult patients with recurring episodes of lower respiratory symptoms including chronic cough with expectoration, wheezing, and fever. A high index of suspicion is required even in patients without risk factors for ingestions, especially when there are no asphyxiating symptoms. Otherwise, patients will be exposed to high risks associated with severe complications and death.

Conflict of interests

The authors have no conflict of interests to report.

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