Chronic Foreign Body Aspiration in a Saudi Child - An Occult Cause of Chronic Pulmonary Disease: Case Report and Literature Review

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CASE REPORT

This is a case of an 8-year-old Saudi girl of an 8-year-old Saudi girl, who was previously healthy. In August 2008, she was admitted to our Pediatric Department at Maternity and Children’s Hospital for the first time with an 11-month history of repeated chest infections. She was treated at home, received multiple courses of different antibiotics with partial improvement. This diagnosis is still considered a missed and an overlooked (forgotten) diagnosis.

ABSTRACT

This case report describes an 8-year-old female, who presented with repeated chest infections. She was screened for acid fast bacilli, immune deficiency syndrome, and cystic fibrosis. The computed tomography scan revealed collapsed left upper lobe with multiple cystic lesions in the lingula. Bronchoscopy was performed, and a foreign body was removed. This diagnosis is still considered a missed and an overlooked (forgotten) diagnosis.

Key words: children, chronic foreign body aspiration, repeated chest infections

INTRODUCTION

Foreign body aspiration (FBA) is often a serious medical condition that demands a timely prompt action.[1] Delayed diagnosis and subsequent treatment are associated with serious and sometimes fatal complications.[1,2] FBA can be seen in all ages, but it is most common in children younger than 3 years of age.[3,4] The most common presenting feature is a history of aspiration. When this history is absent, diagnosis is sometimes delayed by hours or even years.

We describe a case in which there was a delayed diagnosis of chronic FBA, and a review of the literature. A piece of meat was lodged in the bronchus of the left upper lobe for 11 months causing symptoms of chronic lung disease.

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She had no history of aspiration. Physical examination, revealed a girl who looked well, not in distress, with a temperature of 39°C, respiratory rate 22 breaths/min. She had no clubbing. Left side of the chest did not move with respiration, dull on percussion and breath sounds were markedly decreased. Laboratory tests revealed leucocytosis of 21,000/mm, with shift to left, erythrocyte sedimentation rate (ESR) of 104 mm/h. A chest radiograph showed a partial left upper lobe collapse [Figure 1]. The patient was managed for 2 weeks with intravenous antibiotics. All results of screening for acid fast bacilli, immune deficiency syndrome, and for cystic fibrosis were negative. Computed tomography (CT) scan revealed collapse consolidation of left upper lobe with multiple small cavities of the lower lobe and mild pleural effusion.

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She showed marked improvement of her symptoms; air entry improved on the left side and was discharged home after 2 weeks of treatment. Repeated laboratory investigations showed normalized results, white blood cell of 8000/mm, with neutrophils of 38.2% and ESR of 40 mm/h. Two weeks later, she came for follow-up in the outpatient clinic. Her symptoms had returned. Repeated CT-scan chest revealed persistent previous radiological findings with resolved pleural effusion. Based on these findings, the patient was readmitted to rule out the possibility of underlying congenital lung pathology.

High resolution CT-scan, showed collapsed left upper lobe with shifting of the mediastinum to the left with multiple small cavities seen in the ligula <1 cm, suggesting a sequestration [Figure 2]. She was referred to a tertiary hospital for possible lobectomy. There, bronchoscopy was performed, and a foreign body (a piece of meat) was removed, and the patient continued on antibiotics. Later repeated chest X-ray, showed improvement of lung aeration, but still with minimal left lower lobe collapse [Figure 3].

**DISCUSSION**

Foreign body aspiration is one of the major causes of childhood morbidity and mortality.[5] Sometimes, these patients are misdiagnosed as bronchial asthma or pneumonia and are exposed to unnecessary and ineffective therapies. The history of choking is the most reliable clue to the diagnosis of FBA, but many patients seek medical attention because of various nonspecific clinical symptoms. In one previous study, the authors concluded that coughing (82%), followed by choking (57%) were the most common symptoms.[6]

The clinical presentation of FBA depends on the child’s age, the type of object that has been aspirated, the time elapsed since the event, and the location of the foreign body. Some 50-75% of children present to a health facility within 24 h of the initial aspiration.[7,8] Almost 71% of children present within 1-week of aspiration.[3] Aspirated foreign bodies in children are commonly found in the proximal airways owing to the smaller size of the airway, whereas in adults they lodge in the peripheral airways. Atelectasis is considerably more common in adults, occurring in 50% of patients, whereas air trapping is more common in children.[1]

Food particles and organic materials constitute the vast majority of aspirated objects.[9] In children, 91% of foreign bodies are organic, half of which are peanuts.[1] To the best of our knowledge, meat as a particle of foreign body has rarely been reported. Most foreign bodies are radiolucent; only 10-20% are radio-opaque.[3,10] Chest films show
abnormal findings including unilateral hyperinflation, atelectasis, or pneumonia.\(^{[8,11,12]}\) Sometimes, despite modern techniques like CT and magnetic resonance imaging, radio-opaque foreign bodies cannot be clearly diagnosed.\(^{[13-16]}\)

The incidence and severity of long-term complications are directly related to the length of time that elapses between the actual event of aspiration and establishment of the diagnosis.\(^{[17]}\) The longer the delay in diagnosis, the higher the rate of complications.\(^{[18]}\) Because symptoms of chronic FBA can mimic other respiratory conditions and cause difficulty in diagnosis, any chronic unexplained respiratory symptoms with lobar consolidation, collapse, or bronchiectasis appearing in an otherwise healthy child should alert the physician to the possibility of underlying FBA.\(^{[19,20]}\)

A delayed diagnosis may be a physician or parent-related. Physician related factors are responsible for delayed diagnosis in 17.7% of patients.\(^{[8]}\) In our case, there was an obvious delayed presentation and hence diagnosis was late. This was attributed to parent’s negligence and failure by the parents to seek early medical advice. In spite of late presentation to medical service, the diagnosis was missed, and the reasons for this were the lack of a definitive history of aspiration of foreign body, chronic aspiration of a foreign body which showed symptoms that mimic other respiratory conditions, and the nonopaque foreign body, which was not visible on tomographic studies.

**CONCLUSION**

Our case highlights and demonstrates that chronic FBA is still being missed and overlooked (forgotten diagnosis). This indicates that the physician should be aware of the signs and symptoms of chronic FBA. This diagnosis should be considered when a patient with chronic respiratory symptoms fails to respond to usual treatment.

**REFERENCES**


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