

Foreign body aspiration masquerading respiratory tract infection

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Received - 26 April 2019

Initial Review - 11 May 2019

Accepted - 16 May 2019

ABSTRACT

Foreign body (FB) aspiration is a potentially life threatening event where prompt and precise action can turn tears into smiles. We report a case of an eight-year school going boy, with one-month old history of foreign body aspiration. The boy was treated as a case of respiratory tract infection. It was due to reappearance of symptoms and signs of chest infection supported by chest radiography that prompted for the CT-chest. It was followed by rigid bronchoscopy to confirm the therapeutic diagnosis of FB aspiration. This case report highlights the importance of detailed thoughtful history in pediatrics particularly to FB aspiration.

Keywords: Foreign body, Foreign body aspiration, Respiratory tract infection.

Foreign body (FB) aspiration into the tracheobronchial tree in both adults and children can result in significant morbidity and mortality [1,2]. Mortality and diseases caused by airway foreign bodies are more common among children due to their narrow airway and immature protective mechanisms [3].

Alternative or missed diagnosis can prove catastrophic life-threatening airway obstruction or it can present as recurrent pneumonia, localized chronic wheezing, and protracted cough [4]. Delay in precise diagnosis can lead to airway edema, granulation tissue formation, bronchiectasis, and lung infection. We present the clinical scenario of an 8-year-old boy, who was referred to our hospital as a case of lung consolidation.

CASE REPORT

A developmentally normal 8 years old, school going boy was playing with his color pen, and accidentally the cap of the pen went into the mouth following which he coughed and had a choking episode. He was referred to a tertiary care hospital for a medical check-up for this incidence. The patient was managed as a case of respiratory tract infection and was discharged home on same day, with reassurance to the parents that FB is not in lungs and if ingested, it will come out with stools. The patient remained well over a period of 2-3 weeks but developed cough and fever, for which he was given antibiotics, paracetamol, and bronchodilator for about a week. With no relief to the persistent chest complaints, this case was referred to our hospital as a case of left lung consolidation.

While reviewing history details of suspected FB aspiration 1 month prior the referral and suspicious chest X-ray (Fig. 1), a

chest CT was ordered. The CT scan revealed the left lung collapse-consolidation with mucus plug/FB in the left main bronchus, as shown in Fig. 2.

Blood investigations were as follows: WBC 11.97×10^3 (P - 84%, L - 11.5%), HB 12.5g/dL, PLT 227×10^3 , ALP 140 U/L, SGOT 42.4 U/L, SGPT 10.6 U/L, ALB 3.89 g/dl, creatinine 0.47mg/dl. After these investigations the patient was sent to the department of ENT where FB was removed followed by a chest X-ray for confirmation (Fig 3 and 4). The patient was kept in the hospital for 2 more days and was discharged later. At present, the patient is doing well with no current issues and resolution all symptoms and signs.

DISCUSSION

FB aspiration is one of the common potentially dangerous events, a diagnostic miss of which can have very serious consequences, including the death of the patient [5]. Although, a typical

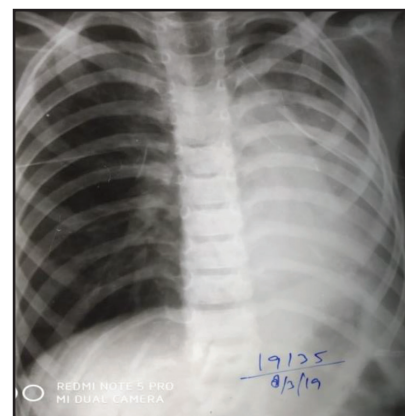


Figure 1: X-RAY before referral with FB

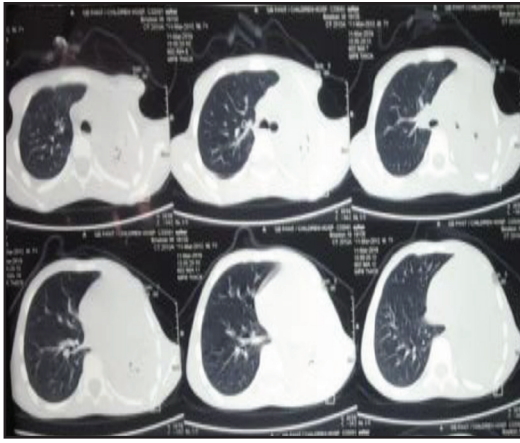


Figure 2: CT-Chest: Left lobe consolidation, with FB/Mucus plug in the left main bronchus

history of coughing and choking is commonly associated with ingestion/aspiration, however, suspecting a FB diagnosis during a stabilization phase in an asymptomatic child can be misleading.

The “penetration syndrome” consists of the sudden onset of choking and intractable cough, with or without vomiting, is commonly seen in all age groups with FB aspiration [6]. In FB aspiration, three clinical phases occur sequentially. During the first phase, there is coughing, choking, gagging, bruising, cyanosis, and probable airway obstruction which immediately follows FB aspiration. During the second phase, the patient may remain asymptomatic while FB is settled and preceding symptoms subside which may further a cause of diagnostic miss and referral delay. The last phase is the complication phase which includes scar formation, obstruction, or infection which attracts renewed medical attention [7].

Traditional practice implies that choking attacks and coughing, are the most prevalent clinical symptoms [8]. The presence of sudden choking followed by severe coughing in a child, while eating food or playing, is a specific and very important indication of the probability of FB aspiration. Although, our case had a typical history as described, the concurrent presence of respiratory tract infection misled the treating physician to label it as an upper respiratory tract infection. It was the prolongation of pulmonary symptoms, and fever not responding to the routine case of lower respiratory treatment regimen that generated the renewed attention, to refer this patient to our center. In our case,



Figure 4: FB (pen cap) removed from the left bronchus

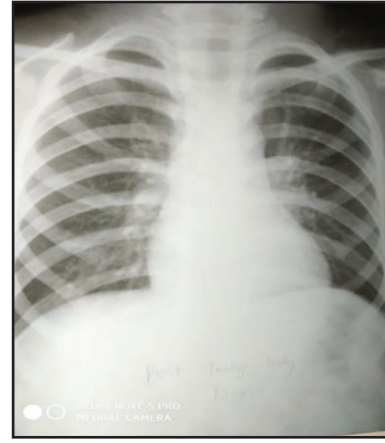


Figure 3: X-ray Chest after FB removal

at the time of referral, he was labeled as consolidation collapse case. It was actually the detailed history which gave us a clue that was followed by CT-chest which clinched the diagnosis and FB (colour pen cap) was removed. Within a couple of days, all the symptoms and signs subsided and child was sent back to home and is doing well.

CONCLUSION

This report highlights the importance of universal rule of eliciting a thoughtful and detailed history in all patients, not just embarking on the investigational reports and treating the patient therein.

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Funding: None; Conflict of Interest: None Stated.

How to cite this article: Ashraf M, Bhat SA, Ahmed P, Riyaz A, Shafi M. Foreign body aspiration masquerading respiratory tract infection. *Indian J Case Reports.* 2019;5(3):258-259.

Doi: 10.32677/IJCR.2019.v05.i03.021