

Self Expectoration of a Forgotten Foreign Body

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ABSTRACT

Foreign body aspiration (FBA) is considered to be a consequential health concern in the childhood and adolescent phase associated with a considerable rate of morbidity and rarely mortality. Commonly two types of foreign bodies inhaled are organic and inorganic. A 20-year-old female student was referred to the Pulmonary Department for a chronic cough. High-resolution computed tomography (HRCT) chest showed localized bronchiectasis and mucus impaction in the right lower lobe. A bronchoscopy was planned and the patient continued the bronchodilator treatment. The patient expectorated one plastic tip of a pen with a bout of cough after one month of the treatment.

Keywords: Allergic bronchopulmonary aspergillosis, Bronchiectasis, Bronchoscopy, Case report, Foreign body, Forgotten.

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ABBREVIATIONS USED IN THIS ARTICLE

ABPA = Allergic bronchopulmonary aspergillosis; FBA = Foreign body aspiration; HRCT = High-resolution computed tomography; OPD = Outpatient department.

INTRODUCTION

The challenge of bronchoscopic removal of foreign bodies has long been intriguing for interventional pulmonologists. Seldom inert foreign entities that have been inhaled and survived for years in the lungs are observed. We describe a case of a forgotten foreign body that, while the patient was receiving antibiotics and inhaled bronchodilators, eventually self-expelled after several years.

CASE DESCRIPTION

Following is a case of a 20-year-old female student who has a history of childhood asthma and is noncompliant with her treatment and visited Outpatient Department (OPD). She used anti-histaminic tablets on a needed basis, occasionally. She presented with complaints of chronic cough which had persisted over 3–4 years and a fever for one week. There was no hemoptysis, no dyspnea, and no weight loss. She had taken anti-TB treatment for 9 months around 7 years back. On routine clinical examination, she was afebrile and maintaining saturation on room air. On chest auscultation, occasional rhonchi were heard all over the chest and localized crackles were heard at the right infrascapular and interscapular region. Besides leukocytosis (TLC was 14,790/mm³), all routine investigations were normal. The differential diagnosis made initially was acute infective exacerbation of asthma, LRTI/ right lower lobe pneumonia, post tubercular obstructive airway disease with superadded infection, postinfective bronchiectasis, relapse of tuberculosis, allergic bronchopulmonary aspergillosis (ABPA) (difficult asthma). There was a remote possibility of foreign body inhalation (localized lesion). Sputum examination showed many GPC, GNB GNCB. Also, AFB smear, Gene-Xpert, and KOH

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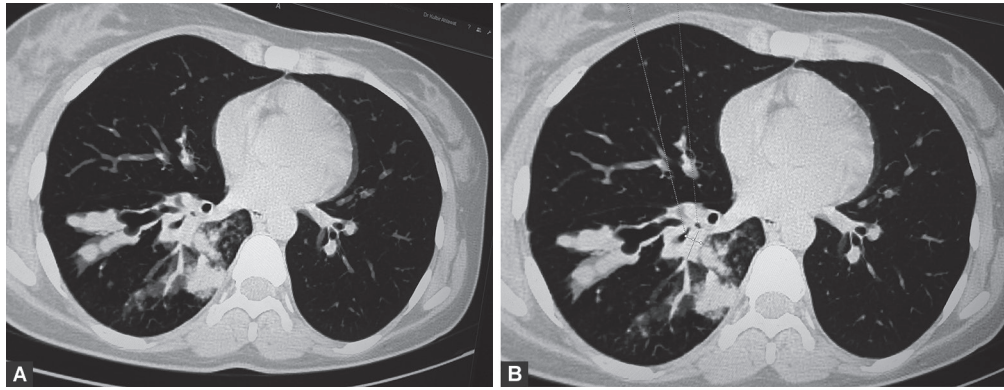
Conflict of interest: None

Patient consent statement: The author(s) have obtained written informed consent from the patient for publication of the case report details and related images.

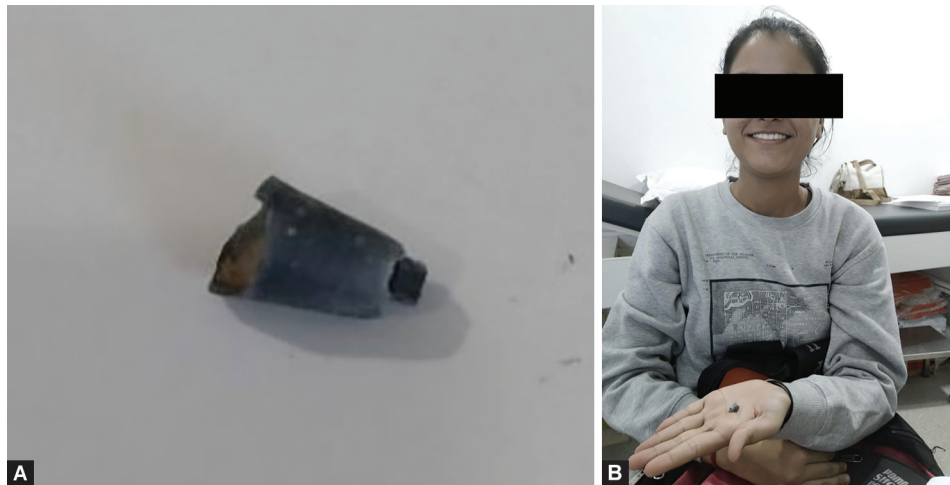
mount were negative. The patient was started on antibiotics and inhaled bronchodilators. High-resolution computed tomography (HRCT) chest showed bronchiectasis and mucus impaction localized in the right lower lobe were negative. With the completion of the antibiotic course patient's fever resolved. The patient was continued on bronchodilator therapy. Following approximately one month of consistent use of a bronchodilator, the patient experienced a coughing fit and expelled a plastic pen tip. She preserved it and showed it to us on her next OPD visit. She remembered that she had inhaled the tip of a pen (Figs 1 and 2) in her childhood nearly 13–14 years back and didn't inform anyone. High-resolution computed tomography after expectoration showed improvement in mucus impaction but residual dilatation of bronchus persisted (Fig. 3). Our conclusion in this case was that bronchiectasis was caused by a forgotten foreign body in the bronchus.

DISCUSSION

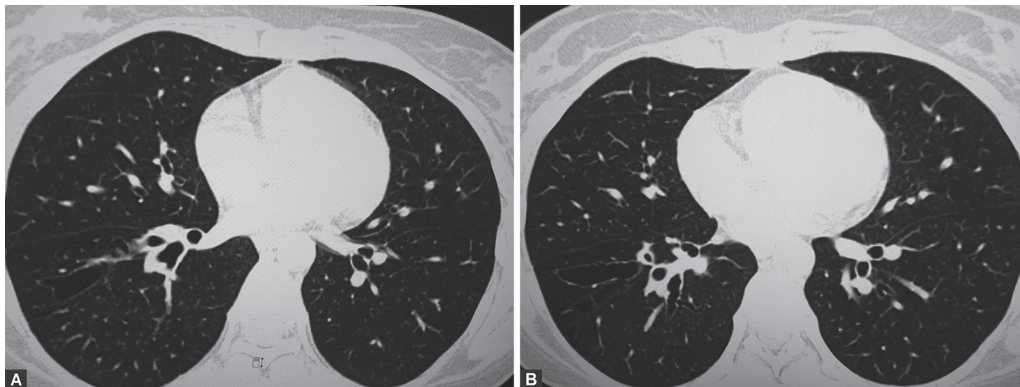
Interventional pulmonary medicine has been always an interesting armamentarium for chest physicians. Foreign body removal either



Figs 1A and B: (A) HRCT chest showing impacted mucus; (B) HRCT chest showing foreign body



Figs 2A and B: (A) Self-expectorated tip of pen; (B) Patient showing self-expectorated forgotten foreign body



Figs 3A and B: (A) HRCT chest after expectoration mucus and foreign body; (B) HRCT chest showing residual bronchiectasis

by fiberoptic bronchoscopy (FOB) or rigid bronchoscopy is one of the most exciting interventions done by a pulmonologist.

In this case report we are discussing a case in which a girl has self-expectorated tip of a plastic pen which she had inhaled in her childhood around 12–13 years back. The girl was diagnosed case of bronchial asthma, on irregular treatment, and had received anti-tubercular treatment in the past. She is wrongly diagnosed and is to be rechecked. Shortness of breath, wheezing, and cough are common presenting complaints with foreign bodies. Foreign

body aspiration (FBA) is one of the differential diagnoses of asthma in children. The girl was never sputum positive for acid-fast bacilli and foreign body may have led to recurrent infection and cough.^{1–4} Initially after chest X-ray and sputum examination, the differential of a superadded infection in a patient of treated Kochs or infective exacerbation of asthma were thought off. She showed improvement with antibiotics and bronchodilators. Her fever had subsided, but HRCT chest showed localized bronchiectasis with mucus impaction. The diagnostic workup for ABPA was also done though the lesion

was localized to a single lobe, but was inconclusive.^{5,6} As she received antibiotics and inhaled bronchodilators, the inflammation might have reduced around the foreign body. There is a case report where the patient had self-expectorated a whistle after 10 months followed by bronchoscopy and like our case it was also inhaled around 12 years back.⁷ Foreign bodies are of two types, organic and inorganic. Organic foreign body is more irritating than inorganic foreign body. Inert inorganic materials like plastic and metallic foreign bodies can remain in the lungs for many years.^{7,8} This inert material can cause mucus impaction and traction leading to bronchiectasis which may be the only residual lesion after the removal of a foreign body like in our case. There is a case report of a fifty-nine-year-old lady with a plastic foreign body presenting with bronchiectasis. The metallic foreign body is easily diagnosed as they are radiolucent and can be easily seen in X-ray or CT.⁹ The plastic foreign body unlike metallic is more difficult to diagnose because they are hardly visible in radiology, like in this case and other reported cases of diagnosed plastic foreign body inhalation.⁸ Thus, our conclusion in this case was that bronchiectasis was caused by a forgotten foreign body in the bronchus. that was self-expectorated leaving residual localized bronchiectasis in the right lower lobe.

CONCLUSION

It is important to confirm the history of bronchial asthma at all times. All patients who received antituberculosis treatment might not have had tuberculosis. When a bronchodilator trial is completed, localized bronchiectasis, particularly in the right lower lobe, should be assessed for foreign bodies and, if necessary, a bronchoscopy performed.

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