

Aspiration of a Cigarette Filter From a Bronchodilator Inhaler

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The majority of foreign-body aspirations are seen in children. In adults, neurological dysfunction, trauma, alcohol abuse, or psychological disorders can lead to aspiration, but normal adults can also suffer foreign body aspiration. The symptoms include acute asphyxiation, with or without complete airway obstruction, cough, dyspnea, choking, and fever, which also occur in many other medical conditions. Bronchoscopic removal of the foreign body is necessary, and flexible bronchoscopy is effective in the diagnosis and removal. We saw a patient with COPD who aspirated a plastic cigarette filter while using his bronchodilator inhaler. Key words: aspiration; bronchodilator; foreign body. [Respir Care 2013;58(4):e39–e41. © 2013 Daedalus Enterprises]

Introduction

Although foreign body aspiration is generally a problem in children, it also occurs in adults. In adults, aspirated materials are usually pins and pieces of food, but there have also been reports of teeth, stones, coins, tooth-crowns, cork, vitamin tablets, thermometers, pens, and tracheostomy components.^{1,2} We saw a patient with COPD who aspirated a plastic cigarette filter while using his bronchodilator inhaler.

Case Report

A 53-year-old man was admitted to the emergency department with dyspnea and chest pain. His anamnesis showed that he was an active smoker and had COPD. He had been using bronchodilators for years. He carried his bronchodilator inhaler and plastic cigarette filter in the

same jacket pocket, and failed to recognize that the filter had gotten into the inhaler (Fig. 1). When he used the inhaler, he accidentally aspirated the cigarette filter.

Routine laboratory tests exhibited the normal range. Physical examination revealed reduced breathing sounds in the left hemithorax. A chest radiograph showed no abnormality, but computed tomography (CT) revealed the foreign body in the left main bronchus (Fig. 2). The cigarette filter was removed via fiberoptic bronchoscopy (Fig. 3) under local anesthesia, and he recovered completely and was discharged without any complaints.

Discussion

Foreign-body aspiration may occur in adult neurologic disorders, mental retardation, unconsciousness, and due to altered consciousness from alcohol or sedatives.^{2,3} However, aspiration can also occur in normal adults. Holding objects between the lips is an aspiration risk in adults.^{4,5} The signs and symptoms of aspiration depend on the bronchial location of the aspirated object. Stridor and expiratory wheezing can be heard in partial obstruction of the trachea. Obstruction in one of the main bronchi causes decreased respiratory sounds and localized rhonchi on the affected side. Chest radiograph may help locate the foreign body,⁶ but in our patient, diagnosis required CT.

In children, rigid bronchoscopy under general anesthesia is the most appropriate way to safely remove an aspirated foreign body, whereas flexible bronchoscopy may be helpful in cooperative adults. This case report shows that

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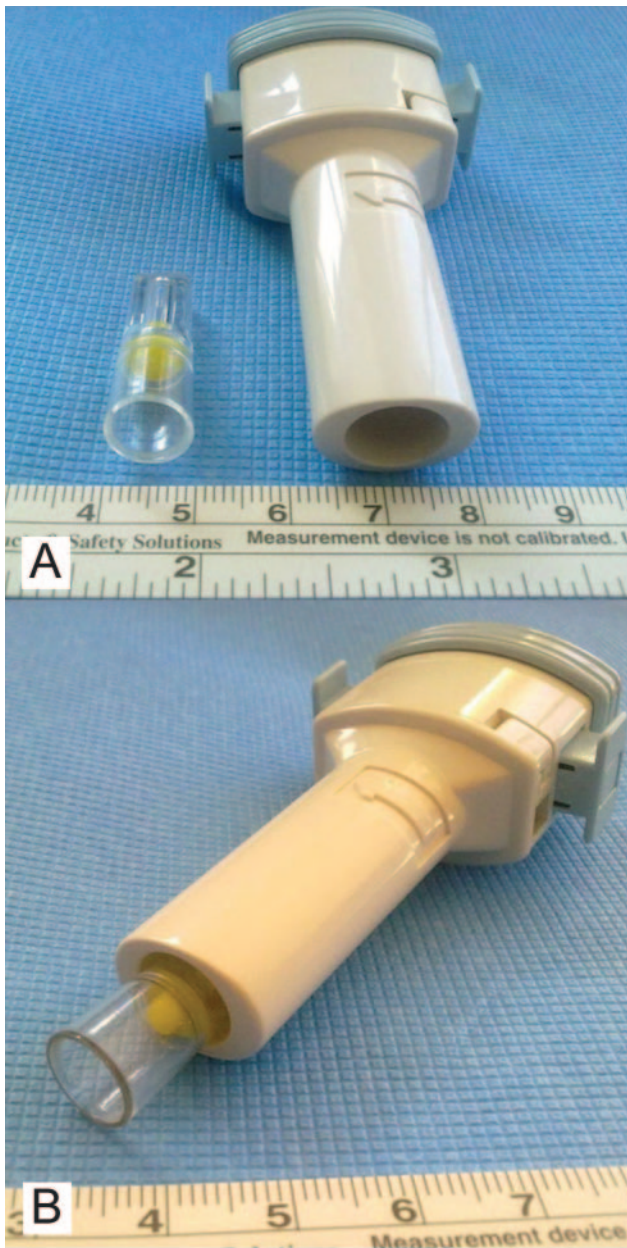


Fig. 1. Plastic cigarette filter (left) and bronchodilator inhaler.

an inhaler can be a risk factor for foreign-body aspiration. Our patient had had COPD for 15 years but was unable to give up smoking. This ongoing smoking and carrying the inhaler without its cap (and therefore the absence of a protective mechanism against foreign body entry into the inhaler) were the major contributory factors for this foreign-body aspiration. There have been similar aspiration case reports.^{7,8} Therefore, it is very important for the patient to check the inhaler for foreign bodies before using the inhaler, and to cap the inhaler after use. Design mod-

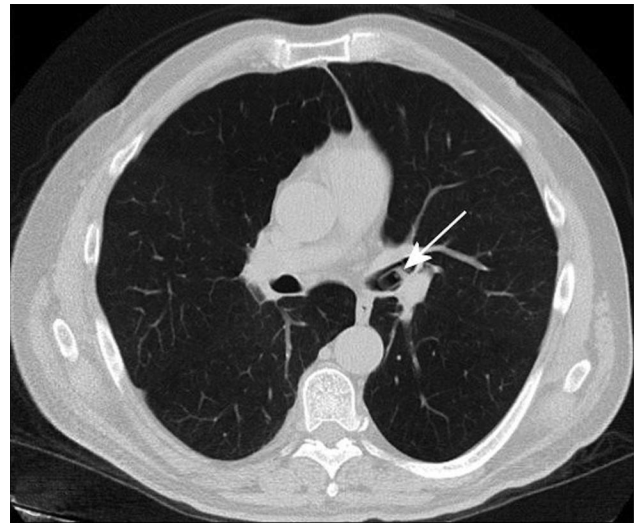


Fig. 2. Computed tomogram shows plastic cigarette filter (arrow) in the left main bronchus.

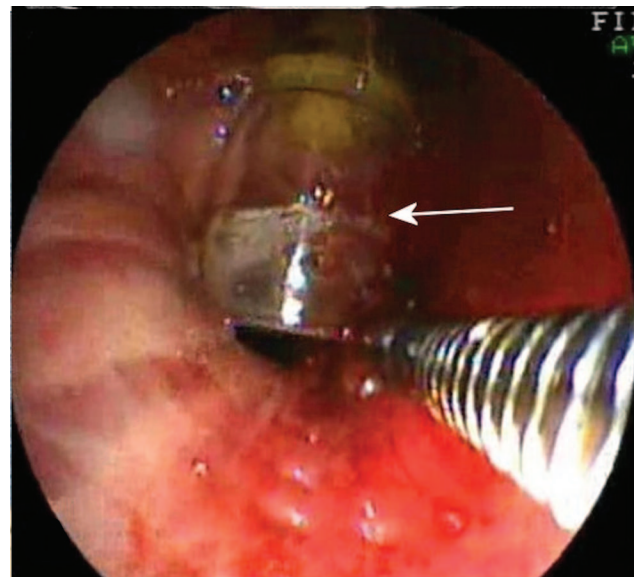


Fig. 3. Bronchoscopic view of the left main bronchus shows the cigarette filter (arrow) and the fiberoptic forceps (lower right).

ification of inhalers could help decrease the risk of foreign-body aspiration.

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