

CASE REPORT

Tell Tale of Tablets in Bronchus

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SUMMARY

Foreign body (FB) aspiration is an emergency of concern at all ages. However, in adults, it can present with atypical symptoms such as shortness of breath, wheezing or rarely cyanosis. Aspiration of oral medications is seen in the elderly population with impairment of protective airway mechanism. Treatment of choice is endoscopic removal of the foreign body.

We report such a case of foreign body aspiration (potassium chloride tablet), diagnosed on imaging and subsequently developed bronchostenosis. There are a very few reported cases of oral potassium supplement aspiration and associated complications in the literature.

KEY WORDS:

Foreign body, aspiration, bronchoscopy, bronchostenosis

CASE REPORT

A 61 year old man presented to the emergency department with sudden onset of shortness of breath and tachypnea. One hour prior to this, he had his usual dinner and medications including potassium chloride (KCl) tablet for hypokalemia and ibuprofen for headache. He had a past history of nasopharyngeal carcinoma, treated with radiotherapy 10 years ago, followed by which he developed difficulty in swallowing.

In the emergency department, he was noted to have low oxygen saturation of 74 % and was on oxygen supplement by nasal cannula. The chest radiograph showed ill-defined patchy opacities in the right lower zone and right apical pleural thickening. The arterial blood gas (ABG) showed severe respiratory acidosis. Computed tomography (CT) pulmonary angiogram was performed with suspicion of pulmonary embolism. CT images revealed two well-defined, oval, non-obstructive radiopacities within the lumen of the bronchus intermedius (Fig 1) with mild overinflation of right lower lobe.

Patient started to desaturate with progressive hypotension and increasing drowsiness, cyanosis and bradycardia. Emergency flexible bronchoscopy was performed and a yellowish white foreign body (FB) in the bronchus intermedius was removed using a Dormia basket. A few other smaller granules of similar color were also obtained from the right main bronchus. The gross and microscopic appearance of the material removed was consistent with KCl tablets.

The patient was then transferred to the intensive care unit for post procedural monitoring. Since there was no improvement in his hypoxemia, he was intubated. His stay was further complicated with aspiration pneumonia and right sided pneumothorax. Repeat CT scan performed 4 weeks later for evaluation of the cause of persistent hypoxemia, demonstrated marked narrowing of the bronchus intermedius (Fig 2a). Flexible bronchoscopy demonstrated narrowing of the bronchus intermedius with the presence of granulation tissue (Fig 2b) in this region in keeping with bronchostenosis, for which serial bronchoscopic balloon dilatation was performed. The follow up chest radiograph 4 weeks later revealed progressive improvement in the atelectasis.

DISCUSSION

Although common in children, FB aspiration can occur at any age.¹ In older patients, aspiration may not present as dramatically as in children and is frequently associated with other comorbidities causing impairment of protective airway mechanism, like primary neurological disorders, previous malignancy, as in our patient.² Hence a good drug history is of paramount importance.

The most common presenting symptom of FB aspiration is sudden onset choking and intractable cough. Less common symptoms are shortness of breath, wheezing and rarely cyanosis.¹ As the right main bronchus is wider and more vertical than the left, aspirated foreign bodies in 70 to 80% cases, lodge in the right bronchial tree.³ The aspirated FB can cause atelectasis, pneumonia, bronchiectasis, bronchostenosis or to the other extreme, can also cause sudden death.

The chest radiograph is of limited diagnostic value in detecting aspirated foreign bodies, and hence the imaging modality of choice is CT chest. It not only gives information about the location of the foreign body but also helps in diagnosing the associated complications. However, in most cases of adult foreign body aspiration, the preferred tool for early diagnosis and treatment is flexible bronchoscopy.³

Literature review reveals that bronchial stenosis due to potassium pill aspiration has been rarely described. The postulated mechanism of bronchostenosis secondary to KCl aspiration is due to its caustic contents causing mucosal ulceration and stricture formation, similar to that seen in esophagus.⁴ Hence, in our case, the bronchostenosis was certainly due to the effect of the drug itself.

This article was accepted: 18 November 2014

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Fig. 1: Oblique coronal thin section CT image showing two oval radiopacities in bronchus intermedius (white arrow).

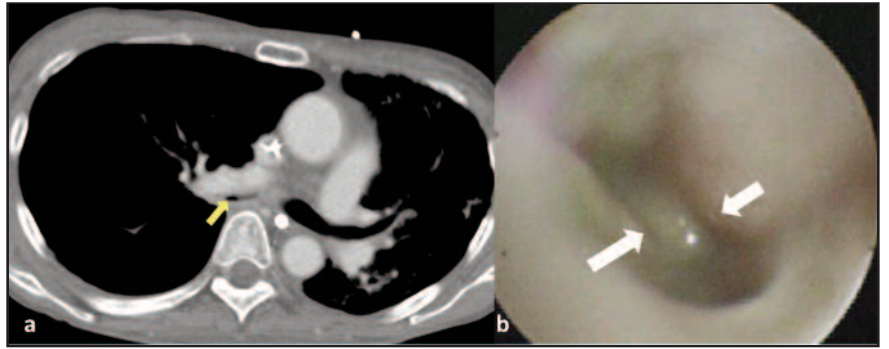


Fig. 2a: Axial CT image shows narrowing of bronchus intermedius (yellow arrow).

Fig. 2b: Flexible bronchoscopy image showing marked stenosis in bronchus intermedius (white arrows).

Wherever clinically indicated, bronchoscopy should be performed earlier in management rather than late, as the incidence of bronchostenosis goes higher with late intervention. A number of safe and effective endoscopic techniques are available for treatment of bronchostenosis including mechanical core-out, balloon dilatation, laser ablation and bronchial stent placement.⁵ Some selected cases of bronchostenosis may require serial bronchoscopic balloon dilatation as exemplified in our case.

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