

A Curious Case of Pill Aspiration

To the Editor:

We read with great interest in a recent issue of *CHEST* (January 2015) the well-written article by Küpeli et al,¹ who reviewed the literature regarding the effects of common medications (particularly pills) on the air passages. They stated that pills can affect the airways via local inflammatory, obstructive, or systemic effects. They noted that radiopaque pills can be visualized on plain chest radiographs and chest CT scans without contrast, whereas radiolucent pills are visualized only by bronchoscopy or are detected via the indirect effect of airway obstruction.¹

We report the curious case of a patient who aspirated a pill with its plastic packaging. A 53-year-old man presented with a 3-month history of cough, but no history of asthma or smoking. Physical examination and laboratory findings were normal. A chest radiograph was interpreted as normal, and he was treated with an inhaled bronchodilator; this treatment resulted in some improvement, and the patient was discharged. The cough persisted, and 4 weeks later he returned with intermittent minor hemoptysis. Chest CT scan demonstrated the presence of a pill and blister pack in the right intermediary bronchus (Fig 1). The patient was then questioned specifically regarding any history of aspiration, and he remembered an incident 6 months previously in which he swallowed a pill to treat a headache before going to sleep. He reported being very drunk at the time and recalled having coughed after taking the pill. Flexible bronchoscopy under general anesthesia revealed a foreign body in the right intermediary bronchus, and the pill with the blister pack was removed by rigid bronchoscopy.

Foreign body aspiration (FBA) is the most common cause of intraluminal airway abnormalities in children but is unusual in adults and is often overlooked as a cause of airway obstruction. Diagnosis can be difficult because patients may not recall the episode of aspiration.²⁻⁴ A detailed history and high index of suspicion are necessary to arrive at the correct diagnosis.³ Although some patients are asymptomatic, complications of pill aspiration include airway obstruction, atelectasis, granulation tissue formation, bronchial stenosis, postobstructive pneumonia, hemoptysis, and bronchiectasis.^{2,3}

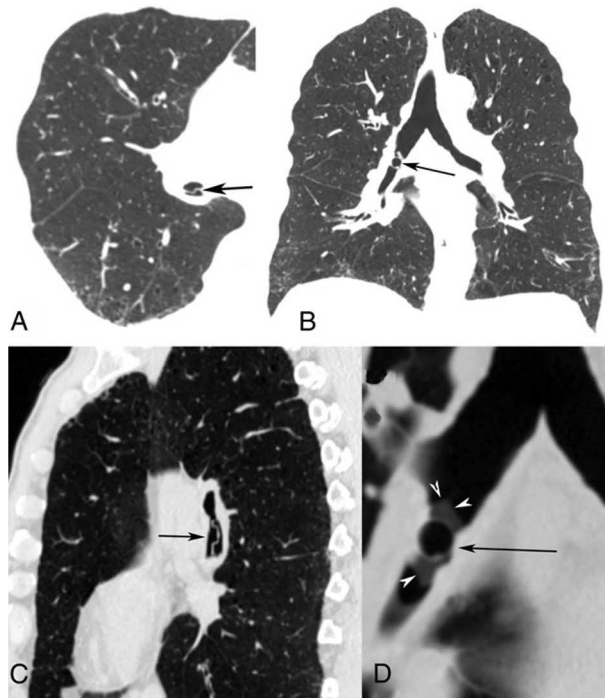


Figure 1 – CT images showing a radiopaque blister pack in the right intermediary bronchus (arrows). A, Axial. B, Coronal. C, Sagittal. D, Coronal magnification showing the borders of the blister pack (arrowheads).

Plastic- or enteric-coated capsules are more “inert,” causing fewer complications.²

All cases of FBA should be treated as medical emergencies.^{1,2} Bronchoscopy remains the ideal instrument for diagnosis and retrieval of foreign bodies. Neglected cases of FBA may require surgical intervention.³ In conclusion, physicians must remember to include FBA in the differential diagnosis of chronic cough.

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References

1. Kupeli E, Khemasuwan D, Tunsupon P, Mehta AC. "Pills" and the air passages: a continuum. *Chest*. 2015;147(1):242-250.
2. Küpeli E, Khemasuwan D, Lee P, Mehta AC. "Pills" and the air passages. *Chest*. 2013;144(2):651-660.
3. Micallef J, Montefort S, Mallia Azzopardi C, Galea J. Two cases of aspiration of calcium tablets. *Lung India*. 2011;28(4):312-314.
4. Franquet T, Giménez A, Rosón N, Torrubia S, Sabaté JM, Pérez C. Aspiration diseases: findings, pitfalls, and differential diagnosis. *Radiographics*. 2000;20(3):673-685.

Response

To the Editor:

It is with great enthusiasm that we read the letter from Dr Hochhegger and colleagues in relation to our prior publications in *CHEST* on pills and the air passages.^{1,2} Their letter affirms our belief that aspiration of medicinal pills is more frequent than reported. Food material is the most common object aspirated in the endobronchial tree simply because it is essential to consume food.³ Similarly, it is essential for many to consume medicinal pills, making them a likely object to be aspirated. Occasionally, the physical conditions for which the pills are being prescribed or the side effects of the pills themselves make patients more vulnerable to foreign body aspiration. As highlighted by Dr Hochhegger and colleagues, alcohol intoxication and altered mental status further increase the risk of aspiration.

Ingestion of pills with the blister pack is also not uncommon.^{4,5} The blister pack is made up of aluminum foil and plastic, both inert substances that produce

minimal mucosal reaction. However, the sharp edges of the packaging can cause mucosal tear. In such cases, rigid bronchoscopy might be required to avoid further damage to the mucosa during retrieval.

Aspiration of a medicinal pill should be included in the differential diagnosis of unexplained respiratory symptoms in a patient with an impaired swallowing mechanism. Patients who take multiple medications should be advised to swallow one pill at a time and about the removal of the packaging material. They should also be made aware of the signs and symptoms of accidental pill aspiration.

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References

1. Küpeli E, Khemasuwan D, Lee P, Mehta AC. "Pills" and the air passages. *Chest*. 2013;144(2):651-660.
2. Kupeli E, Khemasuwan D, Tunsupon P, Mehta AC. "Pills" and the air passages: a continuum. *Chest*. 2015;147(1):242-250.
3. Mehta AC, Rafanan AL. Extraction of airway foreign bodies in adults. *J Bronchol*. 2001;8(2):123-131.
4. Tai AW, Sodickson A. Foreign body ingestion of blister pill pack causing small bowel obstruction. *Emerg Radiol*. 2007;14(2):105-108.
5. Purnak T, Ozaslan E, Efe C. Concomitant oesophageal perforation and bleeding due to a tiny pill with its blister pack. *Age Ageing*. 2011;40(5):645-646.