Late presentation of capsule endoscope aspiration with successful extraction by flexible bronchoscopy utilizing a snare wire loop

Table 1 Demographic and clinical data of the patients with well-documented aspiration of a capsule endoscope.

Age, mean, years	79
Male/Female, n	15/1
Total number	16
Co-morbid risk factors for aspiration, n	5
Dysphagia, n	3
Symptoms/signs, n	
Cough	12
Shortness of breath	2
Throat pain	1
Tachypnea	1
Gagging	1
Wheeze	1
Asymptomatic	2
Length of aspiration, n	
≤ 5 minutes	7
< 24 hours	4
> 24 hours	2
Not provided	3
Method of diagnosis, n	
Recording download	12
Radiographs	4
Spontaneously coughed out, n	9
Removed by flexible fiberoptic bronchoscopy, n	5
Removed by rigid bronchoscope, n	2

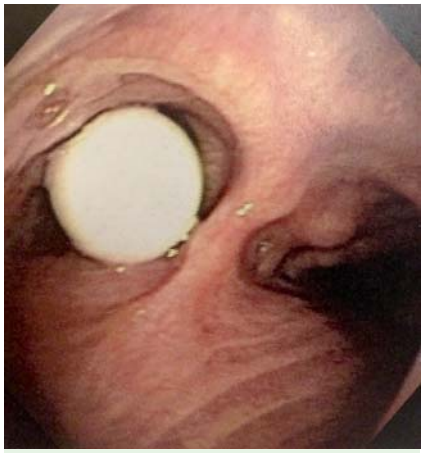

Fig. 2 The capsule endoscope was identified in the left main stem bronchus by fiberoptic bronchoscopy.

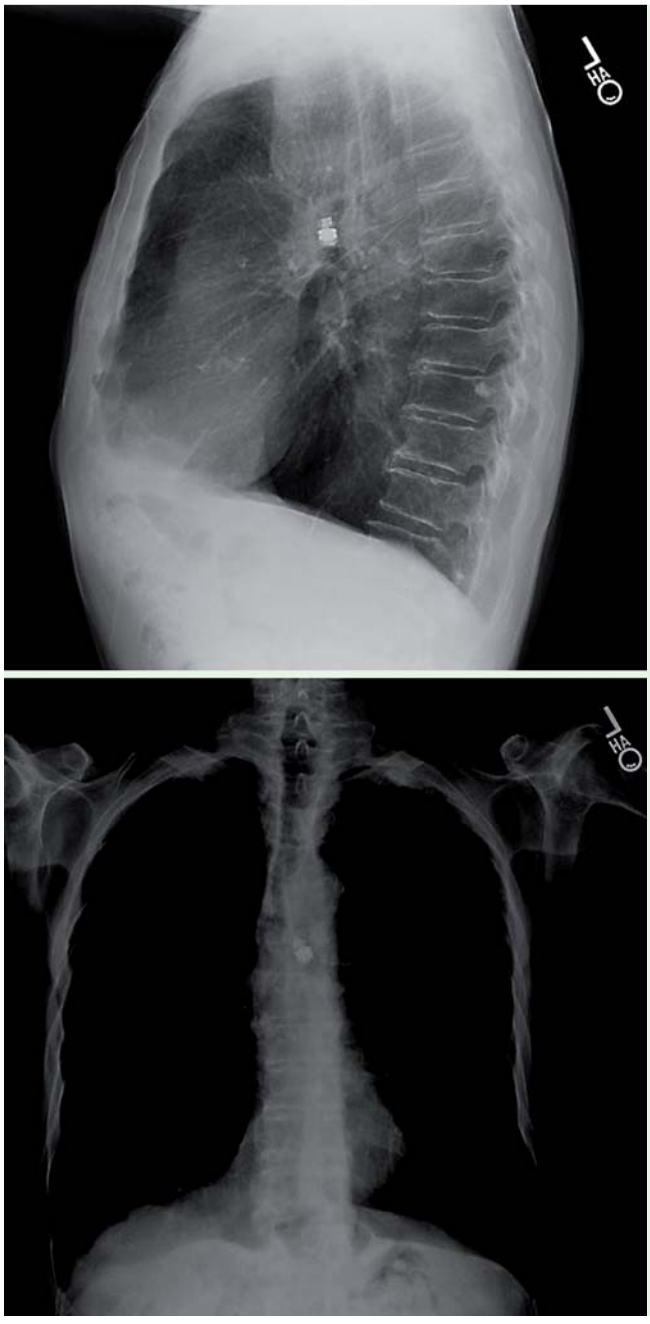

Fig. 1 Chest radiograph demonstrating the capsule endoscope in the left main bronchus.

Capsule endoscopy is a commonly employed technique to examine patients for gastrointestinal pathology. Pulmonary aspiration of a capsule endoscope is a rare complication of this procedure. There have been 15 well-described instances of bronchial aspiration of a capsule endoscope [1–15].

Patients who aspirate this device are generally elderly and may have risk factors for aspiration. Aspiration should be suspected if cough occurs when the patient is swallowing the capsule. Aspiration can be confirmed by chest radiography or by immediate downloading of the recorded images. Fortunately, most patients are able to cough up the capsule endoscope and swallow it without intervention and do so in a short time frame. However, an invasive intervention may be required to remove the aspirated capsule from the bronchial tree. The technique employed to retrieve the device depends on the expertise of the local physicians and equip-

ment availability (Table 1). Interestingly, a capsule endoscope can remain in the bronchial tree for an extended time period without significant complication to the patient.

We present a case where the capsule endoscope remained in the bronchial tree of an 81-year-old man for 110 days without serious consequences. He manifested the aspiration with a cough only at the initial swallowing of the device. Other than his age he had no risk factor for aspiration. The initial interpretation of the capsule video recording was that the capsule had remained in his esophagus for the 8 hours of recording. However, when the capsule endoscope was identified on chest radiographs (Fig. 1) and the video recording was reviewed, it was determined that the images had been misinterpreted. Not surprisingly, the images actually demonstrated that the device had remained in the patient's bronchus for the entire recording. The capsule was successfully retrieved from his left main stem bronchus (Fig. 2) using a flexible fiberoptic bronchoscope and a snare wire loop.

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