

Broncholith-associated mucus plug mimicking lung cancer

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Key message

A mucus plug caused by bronchial obstruction of a broncholith may mimic lung cancer, and bronchoscopic removal of the broncholith was useful for differential diagnosis.

KEYWORDS

allergic bronchopulmonary mycosis, broncholithiasis, bronchoscopy, lung cancer, mucus plug

CLINICAL IMAGE

A lung nodule appeared in a 58-year-old man with allergic bronchopulmonary mycosis (ABPM) who was treated for a non-tuberculous mycobacterial infection 7 years previously. Chest computed tomography (CT) showed a gradually

increasing lung nodule with spicula and pleural indentation and a calcified lesion proximal to the nodule in the right upper lobe (Figure 1A), which was not present 2 years ago. Bronchoscopy found a yellowish coral broncholith in the right B2b bronchus (Figure 2A). Biopsy specimen from the lung nodule obtained by endobronchial ultrasound with a

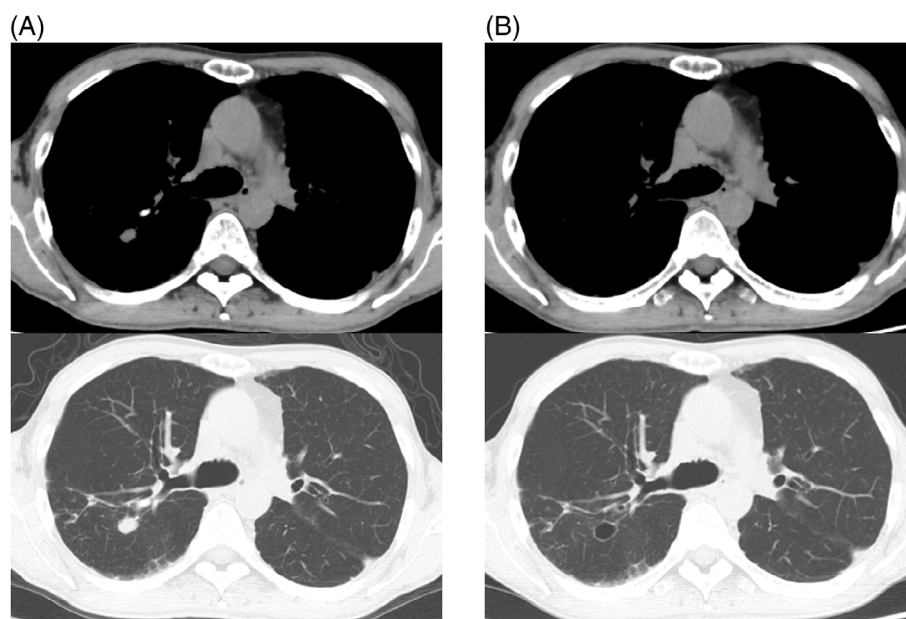


FIGURE 1 Chest computed tomography (CT) shows a lung nodule and a calcified lesion proximal to the nodule in the right upper lobe (A). After bronchoscopic removal of a broncholith, the lung nodule disappeared and a cyst remained on chest CT 1 month later (B).

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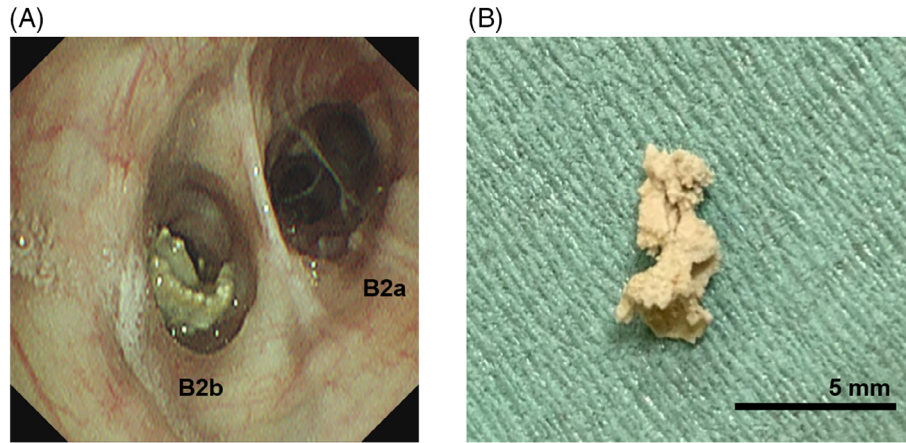


FIGURE 2 Bronchoscopy shows a yellowish coral broncholith in the right B2b bronchus (A). The removed coral broncholith is approximately 5 mm in length (B).

guide sheath showed fibrous tissue without malignancy. After removing the stone by biopsy forceps (Figure 2B) without complications including bleeding, the lung nodule disappeared and a cyst remained on chest CT 1 month later (Figure 1B), suggesting that the nodule was a mucus plug. Bronchial obstruction by the broncholith may have caused an increase in the mucus plug. Broncholithiasis mimicking lung cancer is rarely reported.¹ Broncholithiasis occurs mostly in tuberculosis and histoplasmosis, but can also occur in fungal infections.² The CT density of the lung nodule was 25 Hounsfield units, not in keeping with high-density mucous impaction as can sometimes be seen in ABPM. The nodule characteristics and size increase warranted assessment for possible lung cancer, and bronchoscopic removal of the broncholith was useful for differential diagnosis in this case.

AUTHOR CONTRIBUTION

Yoshiaki Hirakawa and Hiroshi Ohnishi examined the patient, performed the bronchoscopy procedure and wrote the draft manuscript. Akihito Yokoyama provided critical suggestions for the article. All authors contributed to interpretation of the data, and critically reviewed and approved the final version of the manuscript.

CONFLICT OF INTEREST

None declared.


DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

The authors declare that appropriate written informed consent was obtained for the publication of this manuscript and accompanying images.

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