

Lung Cancer with Unusual Presentation as a Thin-Walled Cyst in a Young Nonsmoker

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A 27-year-old female nonsmoker ever had received a healthy examination of chest radiography (CXR) with normal result 1 year ago. She consulted our institute because of prolonged cough for the past 3 months. She underwent CXR and this showed a thin-walled cyst in the right lower lung with ipsilateral hilar enlargement (Figure 1A). The chest CT showed a 30 × 30-mm cystic lesion in the right lower lung with hilar lymphadenopathy. Mycobacterial smears and cultures of obtained sputum were negative. Her carcinoembryonic antigen level was in the normal range. However, given that the appearance of the large cyst with hilar enlargement was atypical, the bronchoscopic examination was performed and revealed an endobronchial mass at the orifice of the right lower lobe (Figure 1B). The histologic examination of transbronchial biopsy specimens confirmed lung adenocarcinoma. Positron

emission tomography revealed heterogeneous uptake of the cystic lesion, right hilar, mediastinal, and left neck lymph nodes, suggestive of metastasis. The patient was diagnosed as having stage IIIb lung cancer, T2N3M0. She underwent chemotherapy and external irradiation to the mediastinal and left neck lymph nodes. Her disease course was rapid. She succumbed to her tumor within 6 months of diagnosis.

The most common radiologic manifestation in lung cancer is solitary or multiple nodules. This report describes a case of lung adenocarcinoma presenting as a cystic lesion in a young nonsmoker, which is extremely rare. However, this atypical presentation of lung cancer should be kept in mind in the differential diagnosis.¹ It should be possible to make a definite diagnosis of benign or malignant cystic masses. There are many hypotheses of cyst formation in malignancy including a check-valve obstruction at the conducting bronchus, central necrosis within the tumor, and development in preexisting cystic lesions.^{2,3} This is the first case reported with tumor imaging at the conducting bronchus that supports the hypothesis of cyst formation due to a check-valve obstruction at the conducting bronchus.

REFERENCES

1. Wigh R, Gilmore FR. Solitary pulmonary necrosis: a comparison of neoplastic and inflammatory conditions. *Radiology* 1951;56:708–716.
2. Ohba S, Takashima T, Hamada S, et al. Multiple cystic cavitory alveolar-cell carcinoma. *Radiology* 1972;104:65–66.
3. Maki D, Takahashi M, Murata K, et al. Computed tomography appearances of bronchogenic carcinoma associated with bullous lung disease. *J Comput Assist Tomogr* 2006;30:447–452.

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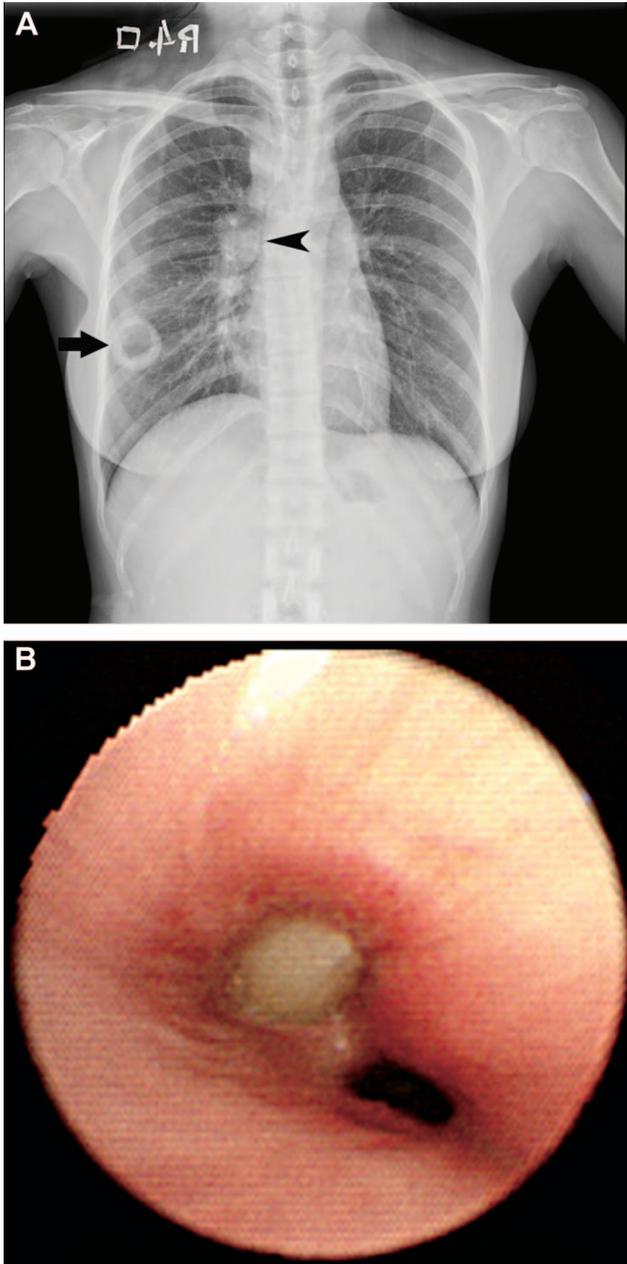


FIGURE 1. A, Chest radiography showed a 30 × 30 mm cystic lesion in the right lower lung with ipsilateral hilar enlargement. B, Bronchoscopic examination revealed an endobronchial mass at the orifice of the right lower lobe.