Clinical picture

Endobronchial adenoid cystic carcinoma complicated with pneumothorax

A 33-year-old man with a history of asthma and right spontaneous pneumothorax visited the pulmonology outpatient clinic due to mild chest tightness for 3 days. Chest radiography revealed recurrent right pneumothorax (Figure 1). Computed tomography (CT) of the chest disclosed tumors obstructing right main and right upper lobe bronchi and bullae formation over the apex. Right shift of trachea and elevation of right hemidiaphragm was noted, indicating volume reduction of right hemithorax (Figure 2). Rigid bronchoscopy was performed and most of the tumors within right main bronchus were enucleated. Histopathological findings of the specimen showed adenoid cystic carcinoma (ACC). Subsequently, he received concurrent chemoradiotherapy with cisplatin and tolerated the treatment well. In a CT scan performed 3 months after the operation, the previously obstructed bronchi became patent (Figure 3).

Primary tumors of the trachea and main bronchi are uncommon, which account for only 0.2% of all respiratory tract malignancies. ACC is the second common one among them. On rare occasions, spontaneous pneumothorax occurs in patients with lung cancer. However, synchronous spontaneous pneumothorax and primary endobronchial ACC have never been reported. In pneumothorax, the total volume of the ipsilateral hemithorax usually remains unchanged or gets expanded due to the mass effect of leaked air. Coexistence of pneumothorax and volume reduction of the ipsilateral hemithorax should raise suspicion of obstructive atelectasis resulting from endobronchial lesions.

Figure 1. Chest radiography revealed right pneumothorax.

Figure 2. CT of the chest disclosed tumors obstructing right main and right upper lobe bronchi (arrowheads) and bullae formation over the apex (arrows). Right shift of trachea and elevation of right hemidiaphragm were noted.
A strong clinical suspicion combined with CT scan is the key to early diagnosis.

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References