Development Of Bronchogenic Carcinoma Shortly After Resection Of A Giant Bulla Of The Lung: Report A Case

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Citation

Abstract
This case report describes the development of a non-small cell carcinoma shortly after resection of a giant bulla of the lung. Giant bulla has been associated with increased risk of bronchogenic carcinoma. This report emphasizes on importance of close follow-up after giant bulla resection.

CASE REPORT
54 year-old man was referred to pulmonary clinic for progressive dyspnea and right sided chest pain. The patient's physical activity was severely reduced due to dyspnea. He was found to have right-sided giant bulla. A Computed tomography (CT) of chest showed a giant bulla involving the right upper and middle lobes (Figure 1).

Figure 1
Figure 1: Chest CT scan showing giant bulla (White arrow).

Physical examination revealed no cervical, supraclavicular, and axillary palpable lymph nodes. Chest exam was significant for absence of breaths sounds over right hemithorax. Left lung, cardiac, and abdominal exam was unremarkable. Pulmonary function test revealed decreased forced expiratory volume in first second (FEV1) and increased residual volume (RV). Arterial blood gas showed PH of 7.41, partial pressure of Co2 (PCO2) of 43 mmHg, and partial pressure of oxygen (PO2) of 69 mmHg. Surgical resection of giant bulla was performed. A CT scan of chest after surgery showed re-expansion of right lower lobe (Figure 2).

Figure 2
Figure 2: Chest CT scan after bullectomy showing re-expansion of right lower lobe.

Postoperatively, the patient functional status improved. Follow-up pulmonary function test showed that FEV1 increased from 1.3L preoperatively to 2.5L after bullectomy. Ten months after the surgery, the patient developed progressive cough and hemoptysis. A CT scan of chest
showed a mass in upper part of right lower lobe (Figure 3).

**Figure 3**
Figure 3: Chest CT scan 10 months after bullectomy showing a mass in right hemithorax

CT guided transthoracic fine needle aspiration of the mass was done. Cytology was consistent with poorly differentiated adenocarcinoma. Mediastinoscopy and mediastinal lymph node biopsy revealed involvement of bilateral mediastinal lymph nodes. The patient was referred for chemotherapy and radiation therapy. The short interval between bullectomy and discovery of the lung cancer suggests that the cancer was present but was not discovered during surgery.

Previous reports have suggested the possible association between lung cancer and bullous lung disease. Although most reported cases are male smokers, lung cancer arising from scar tissue close to bulla wall in non-smoker has also been described. This case report again emphasizes the need for clinicians to be aware of the potential development of bronchogenic carcinoma in patients with pulmonary bulla and need for close follow-up after bullectomy.

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**References**
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