

Solitary Endobronchial Squamous Lung Cancer Presenting as Synchronous Primary Lung Cancer: A Radiological Surprise

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Abstract

Synchronous primary lung cancer is reported to occur in 1-8% of the lung cancer patients. Although recent advances in imaging techniques led to early detection, the radiologists' confidence plays a crucial role for the detection of incidental small endobronchial lesion.

We reported a 66-year-old man with 20-pack year smoking history who was admitted to hospital for dyspnea, dry cough and blood sputum. Chest CT scan showed left hilar mass surrounding the left upper lobe bronchus and incidental small lesion on the upper right lobe omitted by radiological report.

Synchronous primary lung cancers were diagnosed by endobronchial biopsy. Unlike literature, squamous lung cancer presenting as solitary endobronchial lesion represents an unusual bronchoscopic findings in patients with synchronous primary lung cancer. The present case suggests that radiologists' confidence shows a critical point for accuracy of the chest CT scan in the diagnosis of incidental endobronchial primary lung cancers.

Keywords: Airway; Chest CT Scan; Fiberbronchoscopy; Synchronous Primary Lung Cancer

Introduction

Endobronchial squamous cell carcinoma is considered to develop in the central airway gradually from preinvasive epithelial lesion to small central cancer or malignant conversion of a solitary squamous cell papilloma [1-2]. Solitary endobronchial squamous cell carcinoma presenting as synchronous primary lung cancer represents uncommon and incidental findings in course of bronchoscopic procedure. We reported a patient with synchronous primary lung cancer presenting with incidental small lesion on the upper right lobe not diagnosed by radiological report associated to marked narrowing of the left upper.

Description

A 66-year-old man who has been smoking over 20 packs/year for 50 years was admitted to hospital for dyspnea, dry cough and blood sputum. His past medical history was not remarkable. Physical examination revealed decreased breath sounds over left emi-thorax.

Chest CT scan showed left hilar mass surrounding the left upper lobe bronchus and incidental small lesion on the upper right lobe omitted by radiological report. The patient's bronchoscopy revealed stenosis of left upper bronchial and small polypoid vegetation protruding into the right upper lobe completely removed from bronchial biopsy. (**Figure 1 ABCDE**).

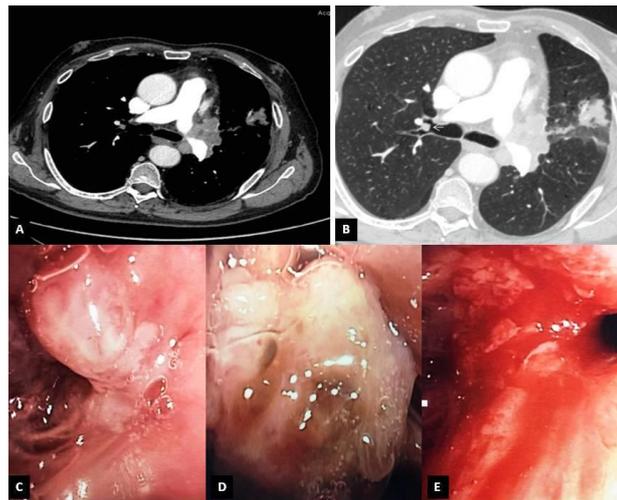


Figure 1: Contrast-enhanced Chest CT scan shows hilar tumor mass obstructing left upper lobe bronchus (A) and incidental small lesion in the upper right lobe (arrow in B). Bronchoscopic image showing left upper bronchial stenosis caused by malignant bronchial wall compression and infiltration (C). Bronchoscopic image showing soft polypoid neoplastic vegetation partially occluding upper right lobe (D). Complete removal of endobronchial vegetation with bronchial biopsy (E).

Histopathological examination revealed endobronchial synchronous primary lung cancer with the presence of small-cell carcinoma in the left upper bronchus, and squamous cell carcinoma in the right upper lobe (**Figure 2 ABCDE**).

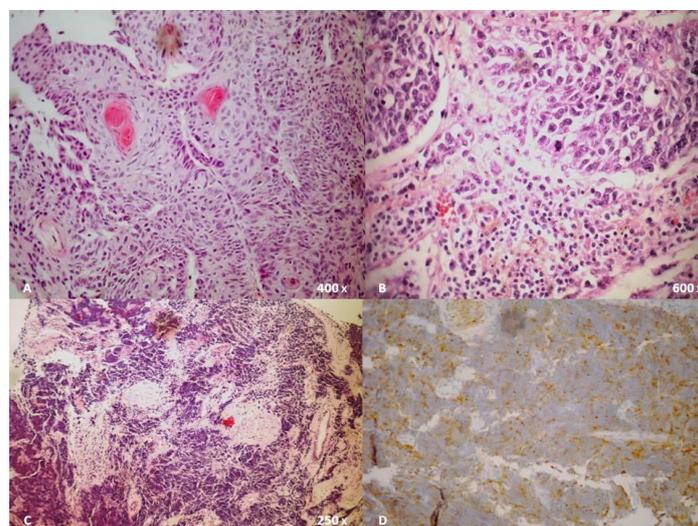


Figure 2: Squamous lung cancer cells showing well differentiated cell neoplasm with keratin formation and intercellular bridges at 400x (A). Mitotic figures are shown at 600x (B). Small cell carcinoma showing destructive sheets with geographic necrosis at 250x (C) and synaptophysin expression with high Ki- 67 proliferative index (D).

In according to the TNM classification, the separate clinical stage for each cancer was stage IB (cT2N0M0) for squamous lung cancer and limited-stage small cell lung cancer. The patient was referred to the oncology service receiving carboplatin and etoposide chemotherapy for small lung cancer.

Discussion

Synchronous primary lung cancer is reported to occur in 1-8% of the lung cancer patients [3]. The Martini-Melamed criteria has been widely established for differential synchronous for metachronous lung cancer [4].

The coexistence of small cell lung cancer and endobronchial squamous cell carcinoma has been infrequently reported in literature despite to synchronous primary pulmonary lesions [7-8]. In our patient, the complete removal of incidental endobronchial squamous carcinoma can be assumed pathologically evolution of squamous papilloma [2].

Although the mechanism of malignant transformation is not fully understood, the smoking status represents a risk factor in our patients.

In literature is reported a malignant squamous papilloma transformation in 3-7% of patients [2-6].

Although recent advances in imaging techniques led to early detection of synchronous, the radiologists' confidence plays a crucial role for the detection of endobronchial synchronous lung lesion [5].

The size of endobronchial lesion, the inability of conventional CT to distinguish between an endobronchial lesion or mucus plug and the radiologists' confidence represent a critical point for accuracy of the chest CT scan in patient with suspected lung cancer [5].

Perhaps despite high sensitivity and specificity of CT scan for the detection of endobronchial lesion, the negative predictive value remains low.

The present case suggests that the fiberbronchoscopy remains the "gold standard" for the detection and diagnosis of endoluminal synchronous primary lung cancers although the correlation between both diagnostic procedures has not been fully reported.

Conclusion

Squamous lung cancer presenting as solitary endobronchial lesion represents an unusual bronchoscopic findings in patients with synchronous primary lung cancer.

The present case suggests that radiologists' confidence shows a critical point for accuracy of the chest CT scan in the diagnosis of incidental endobronchial synchronous primary lung cancers.

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