

Bronchial carcinoid tumor with vascular supply from thoracic aorta

Torasik aorttan kanlanan bronşiyal karsinoid tümör

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Bronchial carcinoid tumors are neuroendocrine tumors which account for approximately 1% of tracheobronchial tree tumors. Symptoms depend on localization and size of tumor or secreting neuroendocrine hormones. In this article, we report a 48-year-old female case who was admitted with dyspnea, retrosternal pain and asthma-like symptoms. Computed tomography revealed a centrally located mass lesion with vascular supply from an aberrant artery arising from the thoracic aorta. No endobronchial lesion was present on bronchoscopy. Left thoracotomy was performed and aberrant artery was ligated and cut. Left lower lobectomy and mediastinal lymph node dissection were performed. Histopathological examination revealed a typical carcinoid tumor without lymph node invasion. After a 21-month follow-up, she is clinically well without recurrence.

Key words: Artery; lung cancer; neuroendocrine.

Bronchial carcinoid tumors are neuroendocrine tumors that arise from the Kulchitsky cells of the bronchial mucosa. They are also classified as uncommon malignant primary neoplasms and represent 1-2% of all lung tumors.^[1] Furthermore, bronchial carcinoid tumors are categorized according to their pathological features as being either typical carcinoid or atypical carcinoid,^[2] but both types have similar imaging features. Since most bronchial carcinoids are located in the central airways, the radiological findings are usually related to bronchial obstruction. Central bronchial carcinoids present as an endobronchial nodule, hilar, or perihilar mass with a close anatomic relationship to the bronchus with symptoms that include a cough,

Bronşiyal karsinoid tümörleri, trakeobronşiyal ağaç tümörlerinin yaklaşık %1'ini oluşturan nöroendokrin tümörleridir. Belirtileri tümörün yeri, boyutu veya salgılanan nöroendokrin hormonlara bağlıdır. Bu yazıda, nefes darlığı, retrosternal ağrı ve astım benzeri semptomları ile başvuran 48 yaşında kadın bir olgu sunuldu. Bilgisayarlı tomografisinde torasik aorttan kaynaklanan aberan arteriyel kanlanması olan ve santral konumda bulunan kitle lezyonu saptandı. Bronkoskopide endobronşiyal lezyon saptanmadı. Sol torakotomi ile aberan arter ligate edildi ve kesildi. Sol alt lobektomi ve mediastinal lenf nodu diseksiyonu yapıldı. Histopatolojik incelemede lenf nodu tutulumu olmayan tipik karsinoid tümör saptandı. Hasta 21 aylık takip sonrasında nüksüz ve klinik olarak iyi idi.

Anahtar sözcükler: Arter; akciğer kanseri; nöroendokrin.

recurrent pneumonia, and hemoptysis. In addition, some patients complain of symptoms that simulate asthma. Reports of bronchial carcinoid tumors that get their arterial supply from the aorta are very rare in the literature.^[3] However, herein, we present a typical bronchial carcinoid tumor with an arterial supply originating directly from the thoracic aorta.

CASE REPORT

A 48-year-old female non-smoker presented with dyspnea, retrosternal pain, and asthma-like symptoms. A chest radiograph and contrast-enhanced computed tomography (CT) revealed a well-defined central mass measuring 5x5x7 cm accompanied by distal atelectasis



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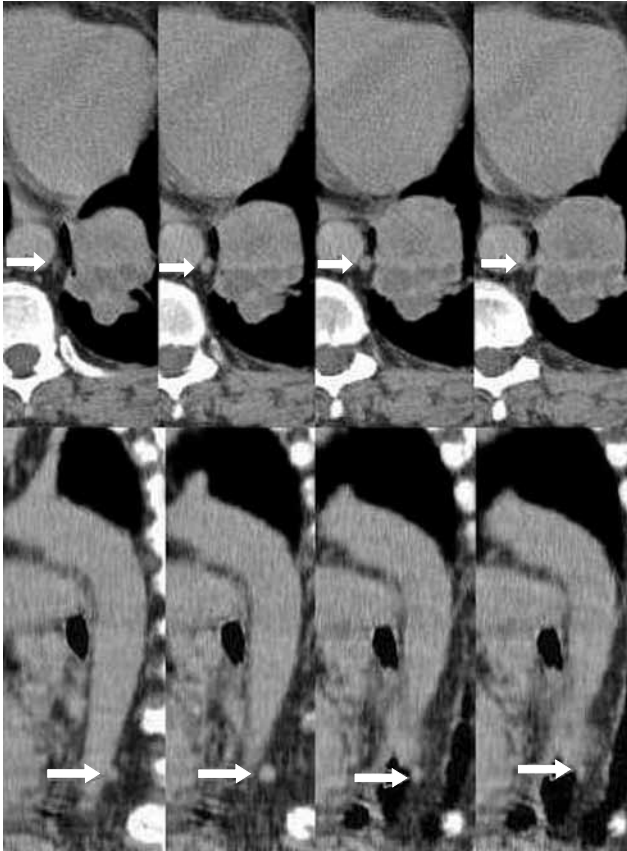


Figure 1. Contrast-enhanced computed tomography (mediastinal windowing with axial and sagittal reformatted images) showing an aberrant artery (arrows) originating directly from the thoracic aorta and approaching the centrally located mass in the left lower lobe.

in two segments of the left lower lobe. In addition, the CT revealed an aberrant artery originating directly from the thoracic aorta that was approaching the

mass (Figure 1). Fiberoptic bronchoscopy revealed no endobronchial lesion, but the basal segment of the bronchi in the left lower lobe were narrowed. Therefore, a decision was made for surgical intervention. During the operation, we discovered that the aberrant artery from the thoracic aorta was actually supplying the mass (Figure 2a). This artery was ligated and cut, and a left lower lobectomy and mediastinal lymph node dissection were then performed. The aberrant artery and its atelectatic basal segments were seen via a macroscopic examination (Figure 2b), and a pathological examination revealed a typical carcinoid tumor and atelectasis. However, no lymphatic invasion was detected. After a 21-month follow-up, the patient is doing well clinically and has had no recurrence of tumor.

DISCUSSION

Young patients with central tumors and no nodal enlargement are likely to have typical carcinoid tumors. Contrast-enhanced CT allows for the visualization of the extrabronchial component of the lesions, hilar nodes, adjacent vessels, and provides a way to differentiate the centrally enhancing carcinoid tumors from the adjacent atelectasis or consolidation. Most carcinoid tumors are primarily endobronchial in nature, but the extraluminal component may be dominant (i.e., iceberg tumors)^[4] as it was in this case. A carcinoid tumor with a perihilar localization that has marked contrast enhancement can mimic pulmonary sequestration, pulmonary varix, or a pulmonary artery aneurysm on a CT scan.^[3,5,6] Furthermore, carcinoid tumors associated with intralobar sequestration have also been documented in the literature,^[7,8] and in those cases, the source of the tumor's arterial supply was the

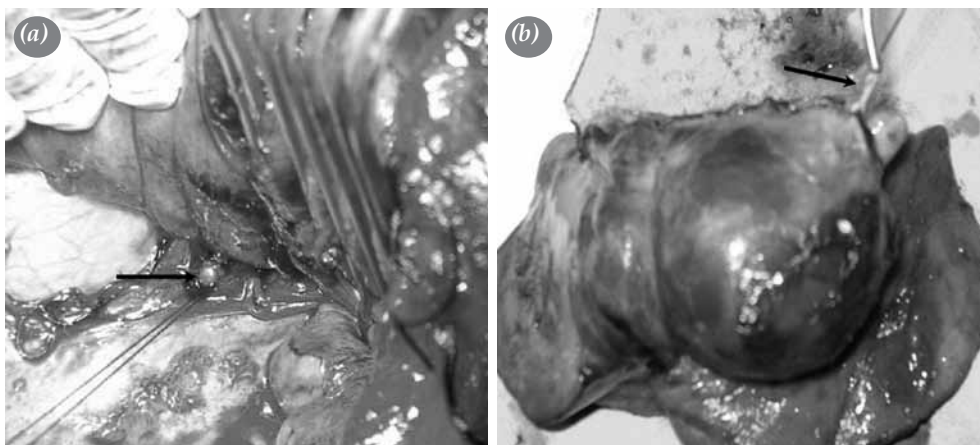


Figure 2. (a) Intraoperative photograph of the aberrant artery from the thoracic aorta that was supplying the mass. (b) A macroscopic view of the specimen showing the mass responsible for the atelectasis of the two basal segments and the aberrant artery entering the mass. The arrows mark the artery.

abdominal aorta (no association with sequestration)^[3] or the left gastric artery (association with intralobar pulmonary sequestration).^[8] Moreover, it is important to demonstrate the systemic arterial supply of the mass in order to avoid massive bleeding during surgery. To our knowledge, this case is the first to demonstrate a carcinoid tumor featuring an arterial supply stemming directly from the thoracic aorta with no sequestration.

Declaration of conflicting interests

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