Lung Carcinoma Mimicking Hydatid Cyst: A Case Report

Kist Hidatiği Taklit Eden Akciğer Kanseri: Olgu Sunumu

Nuri Düzgün[1], Hıdır Esme[1], Ferdane Melike Duran[1], Ercan Kurtipek[2]
[1]Thoracic Surgery, [2]Chest Diseases, Konya Education and Research Hospital, Konya, Turkey

Özet

Akciğer kanserleri, 35 yaş üzeri kadın ve erkeklerde, kanser ölümleri içinde hala birinci sıradadır. %10 oranında kavitasyon saptanan akciğer kanserlerinde en sık kavitasyon oluşturan epidermoid karsinomdur. Akciğer kist hidatiği ise Türkiye'de endemik olarak görülmekle birlikte %24 oranında perfore olarak kavitasyon meydana getirir ve akciğer kanseri ile karışabilir. Bilgisayarlı tomografi (BT), günümüzde toraks patolojilerinin tanısında yaygın olarak kullanılmakta ve konvansiyonel radyografiler ile ortaya çıkarılamayan lezyonlar BT ile saptanabilmektedir. Buna karşın pulmoner hidatik kistler, klinik ve radyolojik bulguları ile teşhis edilebilmesine rağmen, atipik veya karmaşık akciğer lezyonlarında tanı koymak zorlaşmaktadır. Yazımızda göğüs ağrısı ve nefes darlığı şikayeti ile başvuran tomografik incelemelerinde kist hidatikten şüphelenilen, operasyonda gönderilen frozen sonucu malign gelen olgu literatür eşliğinde sunulmuştur.

Anahtar Kelimeler

Akciğer Kanseri; Perfore Hidatik Kist; Kaviter Akciğer Lezyonu

Abstract

Lung cancer remains the leading cause of cancer death in women and men, who are older than 35 years of age. Among lung cancers with a 10% cavitation, epidermoid carcinoma is the most common type of cavitating cancer. Although it is endemic in Turkey, pulmonary hydatid cysts also cavitates by perforating 24%, and it can be confused with lung cancer. Computed tomography (CT) is commonly used to diagnose thoracic pathologies, and any lesion which cannot be detected using conventional radiography can be identified by CT. However, although pulmonary hydatid cysts can be diagnosed by clinical and radiological findings, diagnosis of atypical or complicated lung lesions is difficult. We report a case who presented with complaints of chest pain and shortness of breath, with suspected hydatid cyst during tomographic examination, and whose frozen section showed malignancy as accompanied by relevant literature.

Keywords

Lung Cancer; Perforated Hydatid Cyst; Cavitary Lung Lesion

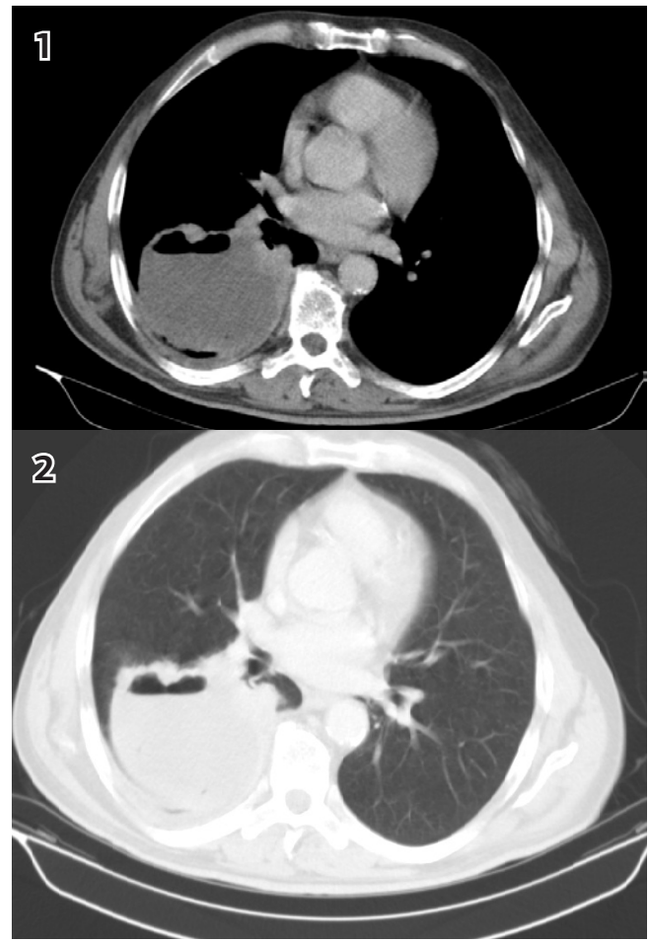
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Corresponding Author: Nuri Düzgün, Konya Education and Research Hospital, Thoracic Surgery, Meram, Konya, Turkey.
GSM: +905074845496 E-Mail: nuri.duzgun@hotmail.com

Introduction

Lung cancer is the most common cause of death associated with cancer [1]. Most of the patients present with symptoms in a late advanced stage. Pulmonary hydatid cyst may not present with systemic symptoms such as fever, malaise, and weight loss during early stage [2]. Other than cavitation associated with necrosis, cavitation may occur secondary to rupture of lesions containing fluid such as hydatid cyst or bronchogenic cyst or presence of a prior infected bulla [3]. CT is the imaging modality of choice for the assessment of suspected or proven lung cancer. Hydatid cyst can be confused with many other pulmonary pathologies, mainly with malignancies [4,5]. We report a case who presented with complaints of chest pain and shortness of breath, with suspected hydatid cyst during tomographic examination, and whose frozen section showed malignancy as accompanied by relevant literature.

Case Report

A 63 year-old male patient admitted to the emergency service with complaints of sudden chest pain, respiratory distress and cough. He informed that he had a dog at home. He described discharge of a lesion looking like a white-membrane (germinative membrane) when coughing within last 15 days. With no additional condition, physical examination of the patient also showed no pathology except for increased reduction in breath sounds. No pathology was observed in whole blood and biochemical tests except for a white blood cell value of 15.000. CT analysis revealed a cystic lesion (perforated hydated cyst?) of approximately 15 hounsfield units (HU) in density, measuring 10x11 cm in size, with an air-fluid level in the basal segment of the right lower lobe (Pictures 1 and 2). Respiratory function test results were as follows: FEV1 - 2.26 liter, and FVC 2.29 liter. Based on the history and available CT results, patient was treated with thoracotomy based on a preliminary diagnosis of perforated hydatid cyst. Cystotomy was applied on the lesion resembling hydatid cyst associated with the major fissure on both lower and upper lobes. No germinative membrane was noted. A frozen section was obtained from the cavity wall of the 63 year-old patient with a smoking history of 50 pack-years and sent for analysis. The result of the frozen section showed malignancy. The operation was terminated since the patient was unable to tolerate single-lung ventilation during the surgery, and no scan of distant regions was available. The pathological diagnosis was reported as squamous cell carcinoma. The patient was referred to the Medical Oncology Clinic for chemotherapy when postoperative scans of distant regions showed brain metastasis.



Picture 1-2. CT images of Case

Discussion

At present, lung cancer is the most common cause of cancer-related deaths [1]. Diagnosis is usually often delayed since symptoms associated with lung cancer are often non-specific. Especially given the patient's smoking history, cough was attributed to cigarette smoking. Patients with hydatid cysts are mostly asymptomatic. Although the disease progress without any clinical signs, some complaints may occur depending on the involved organ associated with rupture or infection of cyst. Such complaints usually include dispnea, cough, chest pain and hemophtysis [4]. Our patient also complained about chest pain and shortness of breath. History of membrane expectorations the most important symptom supporting the diagnosis of a hydatid cyst [2]. He had a history of membrane expectoration. Laboratory analyses are very important in the diagnosis of a hydatid cyst. Although antibody against the parasite can be measured in the body, a negative result will not exclude the disease [5]. We do not request routine indirect hemagglutination test for patients with a suspected hydatid cyst. CT is a common modality in the diagnosis of both lung cancer and hydatid cyst. A common location of hydatid cyst is the lower lobe of the right lung. Similarly, lesion of our patient was also on the lower lobe of right lung. In CT, an intact cyst appears as a rounded, thin-walled, homogeneous radiopacity with regular margins. Radiologically perforated cysts can be demonstrated with evidence of air-fluid level, lotus sign, and meniscus sign [6,7]. We thought that our patient had no lotus sign since he had a history of membrane expectoration. The incidence of cavitation is 10% in lung cancer, and it most commonly occurs in squamous cell carcinoma. The pathology of our patient was reported as squamous cell carcinoma of the lung. The density of lesion 15HU was lower compared to a mass. No spicular extensions were found around the cavitation, which had regular margins. Typically a cavity wall is thick in malignancy. Although tumor cavity can appear regular and thin-walled, it is very rare. In a series of 126 cases with solitary cavities, Woodring and Fried reported that a wall thickness above 4 mm indicates benign tumor, but a wall thickness greater than 16 mm favors malignancy [8]. Our

patient's lesion was consistent with the findings of this study, and the thickest part of the cavity wall was 0.4 mm. The spaced filled with air and/or liquid in lung parenchyma are labeled as cavity and is usually filled with necrotic content. Pneumonia, granuloma, and some lung cancers cause cavities. The structure and thickness of the cavity wall is important. The greater the thickness of the cavity wall, the higher is the malignancy risk. In cavities with a wall thickness above 16 mm, malignancy risk is very high [8]. In cysts with totally expectorated endocyst, a thick pericyste wall develops. In this case separating the cyst form pyogen capture becomes very difficult [7]. Surgery is a treatment modality of choice in both pulmonary hydatid cyst and lung carcinoma.

In conclusion, many conditions, benign or malignant, may lead to cavitary lesions in the lung. What we have learned from this case is that malignancy should always be kept in mind in a patient with cavitary lesion in CT, who has advanced age and a history of smoking even if you live in a country where hydatid cyst is endemic.

Competing interests

The authors declare that they have no competing interests.

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