

Posttraumatic Pseudocyst : A Rare Case

Posttravmatik Psödokist. Nadir Bir Olgu

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Özet

Künt toraks travmalarında akciğer parankiminde oluşan hasarlar sıklıkla pulmoner kontüzyon, efüzyon veya hematoma olarak karşımıza çıkar. Travmaya bağlı akciğerde psödokist ve kaviter lezyon oluşumu nadir bir komplikasyondur. Travmatik pulmoner psödokist (TPP), literatürde travmatik akciğer kavitesi, psödokistik hematoma, travmatik pnömotosel olarak da adlandırılır. Pnömotoraks, kaviter lezyonun enfeksiyonu gibi komplikasyonlar ortaya çıkmadığı sürece TPP klinik seyri genellikle iyidir. Bu yazıda trafik kazası sonrası acil servise getirilen, akciğerde kontüzyon ve travmatik kistleri olan 25 yaşında kadın olgu sunuldu.

Anahtar kelimeler: : Akciğer, psödokist, travma.

Abstract

Damage to lung parenchyma due to blunt thoracic trauma often appears as pulmonary contusion, effusion or hematoma. Pseudocyst formation and cavitary lung lesions due to trauma is a rare complication. In the literature traumatic pulmonary pseudocyst (TPP) is also known as traumatic lung cavity, pseudocystic hematoma and traumatic pneumotocel. The clinical course of TPP is usually benign, unless complications such as pneumothorax or infection of the cavitary lesion arise. In this article, we present a case of 25-year-old woman who was brought to the emergency department after a traffic accident and was diagnosed with lung contusions and traumatic cyst.

Key words: Lung, pseudocyst, trauma.

INTRODUCTION

The spectrum of lung parenchymal lesions occurring after blunt trauma ranges from simple contusions to complicated lacerations with pleural effusion and hydropneumothorax (1, 2). Pulmonary pseudocysts (TPP) are included in the range of such complications, but represent a rare condition that is found in less than 3% of chest traumas (2,3). It is most often seen in children and young adults in whom the thorax is elastic (4). Characteristic symptoms of TPP are haemoptysis, chest pain, dyspnea, cough, and sometimes a small rise in temperature in the early days after the trauma. From the laboratory tests a mild leucocytosis may be present (3). The clinical course of TPP is usually benign, requiring only supportive therapy unless complications such as pneumothorax or infection of the cavitary lesion arise (5). Radiological resolution of the pseudocysts occurs usually in 2-3 months (4).

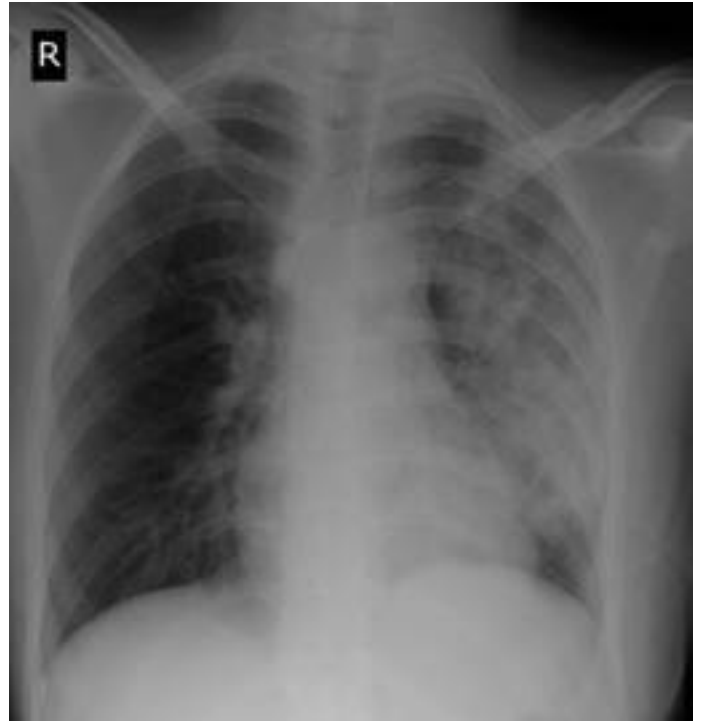
We present a case who sustained TPP with pneumothorax due to a blunt chest trauma after a traffic accident.

CASE REPORT

A 25-year-old woman admitted to our hospital with pneumothorax and multipl fractures due to a blunt chest trauma after a traffic accident. She was a smoker and also drug addicted. On physical examination, she was hemodynamically stable. Auscultation of the lungs revealed decreased respiratory sounds over her left hemithorax, and left shoulder motions were painful. White blood cell count was 16,5 k/uL, there were mild increases in serum transaminase and creatine phosphokinase. The chest X-ray was consistent with left sided pneumothorax, parenchymal consolidation and showed fractures of the second and third ribs on the left hemithorax and also left clavícula (Figure 1). In addition,

chest computed tomography (CT) showed several cystic lesions in the left upper lobe and also parenchymal contusion (Figure 2). Abdomen CT and cerebral CT were within normal limits.

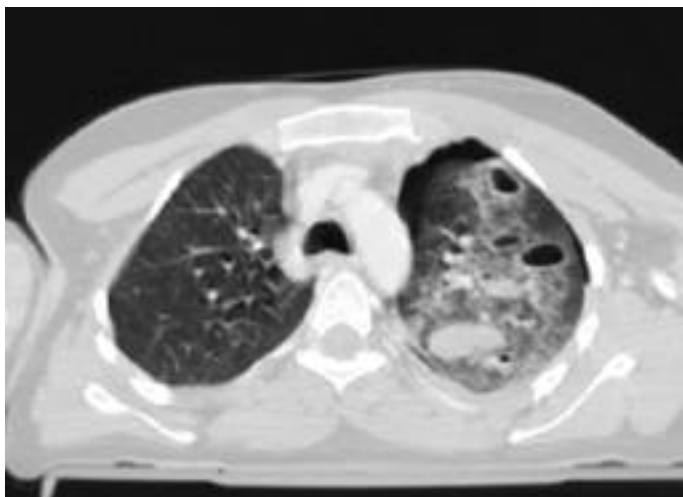
Figure1: The chest X-ray was consistent with parenchymal consolidation, fractures of the second and third ribs on the left hemithorax and also left clavícula. Chest tube is seen on the left.



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Figure 2: Chest CT showed several cystic lesions, pneumothorax and parenchymal contusion on left lung. (5, 6).



Radiological worsening detected on control chest X-ray, which was taken four days after admission (Figure 3). Repeated chest CT showed that previous cysts were turned into the cavities (Figure 4).

Figure 3: Four days after admission chest X-ray showed an increase in consolidation.

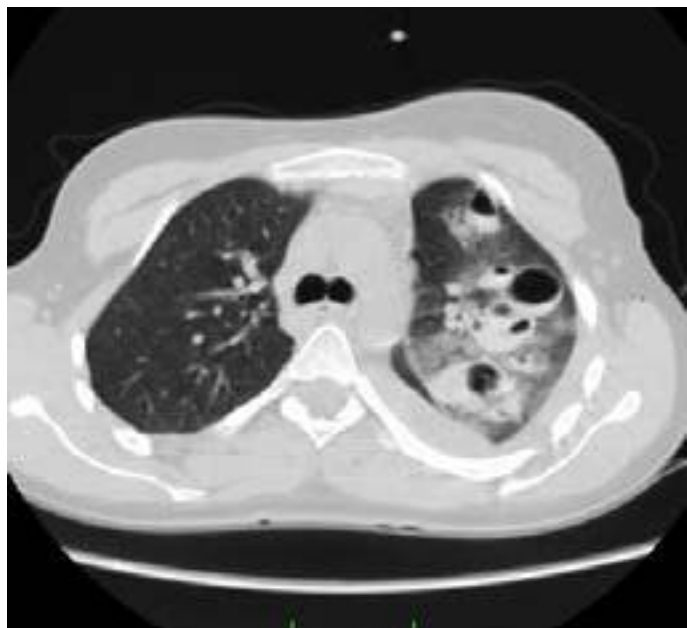


Based on these findings and patient's history, differential diagnosis included; tuberculosis, fungal infections, vasculitis and TPP. Two samples of bronchial secretions were collected and culture for common pathogens proved negative results. Furthermore Ziehl Nilsen staining, culture for mycobacterium tuberculosis, Mantoux test and markers for vasculitis were all negative. These findings were excluded the differential diagnosis except TPP. The patient was asymptomatic and treated conservatively. She showed gradual clinical improvement and after a few days she was discharged. The findings of chest X-ray and CT evaluation about two months later showed complete resolution of the lesions (Figure

DISCUSSION

Post-traumatic pulmonary pseudocyst is an uncommon manifestation of thoracic trauma. The incidence has been reported as 1–3% after blunt chest traumas in adults, and more common in younger people and children (6). The pseudocyst develops via a mechanism that involves a sudden shearing force across the pulmonary parenchyma leading to an area of pulmonary contusion. One-way communication between the airway and the contused area leads to pneumatocele formation. People who are in young age have a more elastic chest wall, which permits greater transmission of kinetic energy to the lung parenchyma (7). Laceration of the alveoli and the interstitium occurs after the rapid compression and decompression which results in cavities filled with air and/or fluid (7), which tend to grow until a pressure balance is achieved between the cavity and the surrounding tissue (6). The TPP may be evident in chest X-ray immediately after the trauma or within a few days after the injury as in our case. In some cases, the cyst might be full of blood thus it may not be visible until after a few days, when the bloody material is drained through the tracheobronchial tree (3). The diagnosis of TPP with X-ray alone is possible in 50% of the cases (8). The CT scan is more sensitive than a simple X-ray to detect such lesions.

Figure 4: Four days after admission chest CT showed thick-walled air cavities on the left upper lobe with contusion



Many mild cases of pseudocysts may go unnoticed if not checked with CT (9).

The differential diagnosis includes cavitating or infected hematoma, pulmonary abscess, postinfectious pneumatocele, tuberculous or mycotic cavity, cavitating carcinoma, and ruptured diaphragm with protrusion of bowel into the chest space. The history of trauma and the CT scan of the chest, usually are enough to confirm the diagnosis of pseudocyst (10).

Our case was a 25-year-old woman who had no previous medical history. Because of she was drug addicted diagnosis was likely to be septic embolism. We also perform the necessary examinations to exclude other differential diagnoses in case. However the presence of trauma history and CT findings made us to put TPP on the top of differential diagnosis.

Figure 5: Chest X-ray was normal two months after trauma.

TPP usually undergoes spontaneous resolution within 2-4 months. Conservative medical treatment and follow-up is enough for these patients. Surgery may be required when complications (pneumothorax, hemothorax, infection of pseudocyst/abscess formation and an increase in the size of the pseudocyst due to haemorrhage) developed (11).

Figure 6: Thorax CT evaluation was normal two months after trauma.

Moore et al. reported that 38% of simple cysts turned into lung abscess (12). In another study Gincherman et al. reported that they would be able to drainage the infected cysts with needle guided by chest CT (13). Soysal et al. reported an 18 year-old patient developing two cystic lesions after trauma. Surgery performed to this patient, because the cysts are persisted at the end of the 6 months follow-up (14). Caylak et al reported two cases that they treated conservatively (15). Yazkan published a review consisting of 73 isolated cases of chest trauma. He described that TPP developed in four cases (5.47%), and spontaneous resoluti-

on developed in all cases (16). In our case, we didn't determine any complication after medical treatment.

In conclusion TPP is generally self-limited, although the clinical course might be complicated by infection and bleeding (17). However close follow up with CT is recommended because of some rare but serious complications.

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