



Pseudochylothorax due to Rheumatoid Arthritis; A Very Rare Entity

Romatoid Artrite Baęlı Pseudoşilotoraks; Çok Nadir Bir Antite

Romatoid Artrite Baęlı Pseudoşilotoraks / Pseudochylothorax due to Rheumatoid Arthritis

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Özet

Pseudoşilotoraks genellikle tüberküloz veya romatoid artrit [RA] gibi kronik inflamatuvar hastalıklarla ilişkilidir. RA'e baęlı pseudoşilotoraks çok daha nadir olup 2009'a kadar İngiliz literatüründe sadece 21 vaka vardır. Uzun süreli plevral efüzyon [5 yılın üzerinde] ampiyem ve pseudoşilotoraks ile sonuçlanabilir, ancak bizim hastalarımızın hikayeleri 2 ve 3 yıllıktır. Bu yazıda pseudoşilotoraks ve ampiyemli 2 RA vakasını literatüre katkı sağlaması ve pseudoşilotoraks tanısında zamanın bir kriter olmadığını vurgulamak için bildirdik.

Anahtar Kelimeler

Pseudoşilotoraks; Romatoid Artrit; Plevral Efüzyon; Ampiyem

Abstract

Pseudochylothorax is usually associated with chronic inflammatory disorders like tuberculosis or rheumatoid arthritis [RA]. Pseudochylothorax due to RA is much more rare and there were only 21 cases in the English literature until 2009. Long standing pleural effusion [over 5 years] could result empyema and pseudochylothorax but our patients had a history of 2 years and 3 years. At this paper we report two cases of RA with pseudochylothorax and empyema for the supplement of the literature and to emphasize time is not a criterion for the diagnosis of pseudochylothorax.

Keywords

Pseudochylothorax; Rheumatoid Arthritis; Pleural Effusion; Empyema

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Introduction

Genetic and environmental factors are in the etiology of rheumatoid arthritis [RA] which is a common autoimmune disease that characterized by chronic inflammation of the joints [1,2]. Pleural and pericardial diseases, rheumatoid nodules, diffuse interstitial disease, pulmonary vasculitis, pneumonitis, fibrosis, bronchogenic carcinoma, bronchiectasis, airway involvement and pulmonary hypertension are some of the intrathoracic pathologies [1,2]. Patients with rheumatoid disease have a high incidence of pleural effusion with exudative nature. Ratio of pseudochylothorax is a very rare. Pseudochylothorax is usually observed with tuberculosis and RA, but the proportion of RA is much more less [%9].

In this paper, we report two cases of RA with lung involvement that treated with the diagnosis of pseudochylothorax and empyema for the supplement of the literature, also the short duration of disease is important at our cases.

Case Report

Case 1

A 57 year old male admitted to our clinic with dyspnea, fever, chest pain and pleural effusion. He had a 2 year history of RA. During this period he had pleural effusion as intervals and treated with medical therapy. A chest radiograph and computed tomography (CT) scan revealed a right sided pleural effusion. (Figure 1 and 2). Pleural fluid was milky and had high levels of cholesterol, biochemical markers were seen at Table-1. The diagnosis of pseudochylothorax and empyema was established to the patient that due to RA.

Exploratory videothoracoscopy has been made to patient because of the lack of clinically improvement. During the operation fibrin bands and minimal pleural thickening were seen in thorax. Culture and pleural biopsy was taken. *Acinetobacter baumani* was isolated in culture and fungal hyphae was seen in pathology report. After antibiotic and antifungal treatment

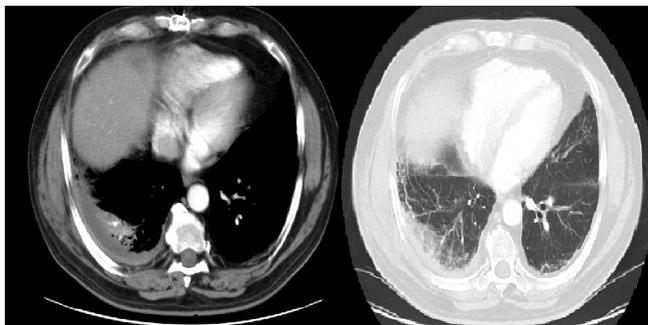


Figure1. Computed tomography of first case

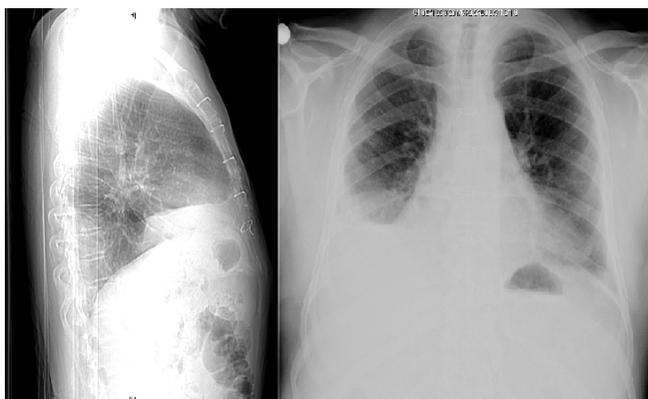


Figure 2. Chest radiography scan of first case

fever regressed and the patient discharged with chest tube. Patient presented with an increase in the amount of drainage 15 days after he discharged, after medical treatment chest tube removed and he was discharged again. The patient still suffering from dyspnea and CT reported that 12x6cm empyema cavity because of these total decortication had been made. After decortication symptoms regressed and patient is asymptomatic for a year.

Case 2

A 64 years old men who has RA admitted to our clinic with dyspnea and pleuritic chest pain. Pleural aspiration of the effusion confirmed pseudochylothorax and empyema [Table.1]. At the examination he had no fever but *Staphylococcus aureus* and *Pseudomonas aeruginosa* was isolated in pleural effusion cultures studied in different times. Daily pleural irrigations was made with Povidone-iodine and at 9th day pleurodesis was done with tetracycline. At 11th day drainage was interrupted. Chest tube removed and patient discharged. In routine inspections pleural effusion did not relapsed after 1 year period after treatment.

Discussion

Rheumatoid arthritis affects %1 of the adult population and usually catches joints with cartilage damage, joint destruction and functional disability [1,2,3]. The incidence is %0.34 in

Table1. Biochemical markers of the patients.

	Case.1	Case.2
Glucose	1 mg/dl	4 mg/dl
Triglycerides	37 mg/dl	87 mg/dl
Cholesterol	210 mg/dl	388 mg/dl
LDH	4064 units/L	3404 units/L
Albumin	2.03 mg/dl	1.63 mg/dl
Protein	44 g/L	60 g/L

LDH: lactate dehydrogenase

women and %1.54 in men [2,3]. Extraarticular manifestations are also present and lung involvement could be seen approximately %1-5 of RA patients [2,3,4].

Most of the patients with pleural effusion is asymptomatic, and have small amounts of effusion [2,3]. However effusion sometimes becomes larger and cause pleuritic chest pain and dyspnea like our patients. Chest pain occur %30-50 of the patients with RA. Effusion could be persist for several months to years and usually unilateral [%70] [2,3].

For the diagnosis thoracentesis should be performed. Pseudochylothorax is a rare entity and typically pleural fluid triglyceride levels <110 mg/dl and cholesterol levels >200mg/dl. Also glucose levels are found less than 40mg/dl, protein levels above 4 g/dl [not specific] and lactate dehydrogenase [LDH] levels >700 IU/L. High LDH levels are the indicator of pleural inflammation [5]. Our patients levels are harmonized with pseudochylothorax as seen at Table.1.

Cholesterol pleurisy or chyloform effusion is the synonymous of pseudochylothorax [5,6]. Cholesterol-rich pleural effusion and milky pleural effusion is usually associated with chronic inflammatory disorders like tuberculosis or rheumatoid arthritis. Chronic pneumothorax, chronic hemothorax, paragonimiasis, echinococcosis, malignancy or trauma are also the other etiological diseases [5]. Pseudochylothorax due to RA is much more rare and there were only 21 cases in the English literature until 2009 [7].

Pleural empyema could be seen in rheumatoid pleuropulmonary

disease just like our patients, but the frequency of the course is still unknown [1,3,4]. Infection is usually resulted from microbial colonization of necrotizing subpleural rheumatoid nodules [%0.5], formation of bronchopleural fistula and pyopneumotorax [2,3]. Long standing pleural effusion [over 5 years] and underlying chronic lung diseases could also be resulted by empyema and pseudochylothorax, our patients had a history of RA and pleural effusion of 2 years and 3 years period [3,5,7,8]. Their effusion regressed spontaneously sometimes and always recurred, but after pleurodesis and decortication treatment they are disease free for 1 year period. Just like Wrighthston et al.'s study our patients developed pseudochylothorax less than 5 years and according to us the knowledge that pseudochylothorax develop over 5 years is not always true [7].

50 percent of cases with pleural effusions due to RA resolves spontaneously with medical treatment. The resolution of the fluid sometimes takes several months and years [2]. Grossly thickened pleura is widely seen at pseudochylothorax [7]. Our patients had only a little pleural thickening, it is reason may be a short interval of pleural effusion due to RA. Pleural thickening can be prevented with steroids, nonsteroidal antiinflammatory drugs and immune suppressive treatment, our patients used these treatments several times. Tube thoracostomy, pleurodesis, fibrinolytic therapy, surgical procedures such as VATS, decortication and Eloesser flaps are surgical treatments that usually performed [4].

We report here rare cases of pseudochylothorax and empyema associated with RA. Pseudochylothorax must always be consider as a differential diagnosis of pleural effusion and empyema. Controversy to the classical knowledge pseudochylothorax could be occur less than 5 years survival and we must be remember the duration is not important for pseudochylothorax or empyema.

Competing interests

The authors declare that they have no competing interests.

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