Pseudochylothorax due to Rheumatoid Arthritis; A Very Rare Entity

Romatoid Artrite Bağlı Pseudoşilotoraks; Çok Nadir Bir Antite

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Özet

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
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 pseudochylotorax is a very rare. Pseudochylotorax 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 pseudochylotorax 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 pseudochylotorax 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 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 pseudochylotorax 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 Povidio-iyodin 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 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. Pseudochylotorax 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 pseudochylotorax as seen at Table.1.

Table1. Biochemical markers of the patients.

<table>
<thead>
<tr>
<th>Glucose</th>
<th>Triglycerides</th>
<th>Cholesterol</th>
<th>LDH</th>
<th>Albumin</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mg/dl</td>
<td>37 mg/dl</td>
<td>210 mg/dl</td>
<td>4064 units/L</td>
<td>2.03 mg/dl</td>
<td>44 g/L</td>
</tr>
<tr>
<td>4 mg/dl</td>
<td>87 mg/dl</td>
<td>388 mg/dl</td>
<td>3404 units/L</td>
<td>1.63 mg/dl</td>
<td>60 g/L</td>
</tr>
</tbody>
</table>

LDH: lactate dehydrogenase

Cholesterol pleurisy or chyliform effusion is the synonymous of pseudochylotorax [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 haemthorax, paragonimiasis, echinococcosis, malignancy or trauma are also the other etiological diseases [5]. Pseudochylotorax 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 micro-
bial colonization of necrotizing subpleural rheumatoid nodules
[\%0.5], formation of bronchopleural fistula and pyopneumotorax
[2,3]. Long standing pleural effusion [over 5 years ] and underly-
ing 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 Wringhston et al.’s study our
patients developed pseudochylothorax less than 5 years and ac-
cording 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 thick-
ening can be prevented with steroids, nonsteroidal antiinflam-
matory drugs and immune suppressive treatment, our patients
used these treatments several times. Tube thoracostomy, pleu-
rodesis, 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 empy-
ema.

Competing interests
The authors declare that they have no competing interests.

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