



Case report

Pleural effusion as a rare manifestation of mediastinal teratoma: A case report



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ABSTRACT

Pleural effusion as one of the most common manifestations of pulmonary diseases is a rare symptom of anterior mediastinal teratoma that might mislead general physicians. In this study we report a rare case of pleural effusion and anterior mediastinal teratoma accompanying each other. The patient was a 21-year-old woman who suffered from dyspnea, cough, fever and manifestations of pleural effusion were obvious in chest X Ray (CXR). Computed tomography scan showed a cystic mass with lipid component. After thoracotomy, a mass was taken out from medial lobe of right lung and the results of pathology showed the mature mediastinal teratoma. The patient remained well with no evidence of recurrence on follow-up CXRs 6 months after the surgery.

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1. Introduction

Mediastinal tumors include thymoma, lymphoma, metastasis and teratoma. Mediastinal teratoma is an uncommon tumor (nearly 3–12% of mediastinal tumors) [1].

These tumors grow slowly and they don't often have any symptoms so that they are rarely specified in CXR. Chest pain, dyspnea and cough are the most common symptoms of these tumors occurring because of the pressure effects on adjacent organs [1–3].

2. Case report

The patient was a 21-year-old woman from the central area of Iran with no former precedent of disease who had suffered from exertional dyspnea three days before admission and it was intensified gradually so that she suffered from at rest dyspnea. Also, she complained about dry coughs and chest pain during the last three days. When the patient was visited, she had fever (temperature was

38.3°C), pulse was 110 beats/min, blood pressure 110/70 mmHg and respiratory rate was 40 breaths/min. The pulse oximetry reading was 96% while she was breathing room air. Her right lung sound decreased in 2/3 of lower part, with dullness percussion and decrease tactile fremitus while the left lung was normal. In routine blood tests, except for slight increase in WBC (about 13000) there was no other point. CXR showed opacity and fluid concentration in the pleural space of the right lung (Fig. 1).

In the emergency department, a chest tube was inserted and some pus was drained but it didn't cause any improvement in her symptoms. The analysis of pleural effusion showed exudative pattern.

For more studies, Computed tomography (CT) scan was performed and it showed a hypodense mass containing fatty tissue in Anterior Mediastinum that has been listed in the tables of diagnosing teratoma (Fig. 2).

The patient was operated for diagnosing and treating thoracotomy with Decortication and Empiectomy. During the surgery, 500 cc of pus was removed and the mass being in the right middle lobe of lung was resected which caused collapse in that area (Fig. 3).

The results of mass pathology showed cystic mass covered by squamous epithelium containing cholesterol cleft in the wall, cutaneous annexes, histocytes, mature chondroid Islets, lipid tissue, Mucinar glands, Accinar images and pancreas such as Islets and

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Fig. 1. Patient's chest radiography showed significant pleural effusion in the right lung.

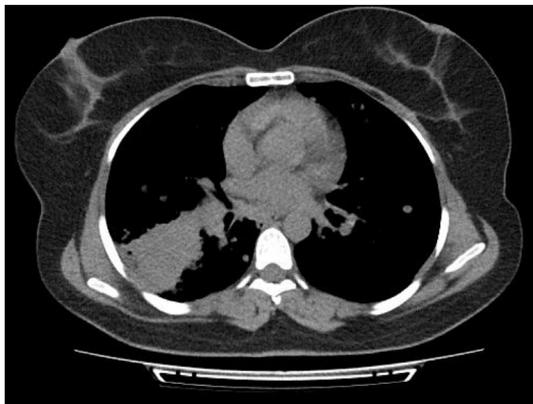


Fig. 2. Axial chest CT scan of patient showed hypodense mass in Anterior Mediastinum.

ducts (Fig. 4). The patient was discharged well and during the 6-month follow-up, she had no other problems.

3. Discussion

Mature teratoma is one of the least common anterior mediastinal tumors which grow slowly and it is asymptomatic in most cases [1–3]. Nonetheless, the most common clinical symptoms of mediastinal germ cell tumors include dyspnea (25%), thoracic pain (23%), cough (17%), fever (13%), weight loss (11%), superior vena cava occlusion (6%) and extrathoracic pain (5%) [4] while pleural effusion is rarely seen in such cases [5].

In the present case, a 21-year-old woman was admitted with pleural effusion and reviewing the literature, showed that in such cases, most physicians make an initial diagnosis of pneumonia, cancer and tuberculosis [6]. But this case revealed that pleural effusion was caused by mature cystic teratoma. Although because of the similarity of the clinical and radiological characteristics, such misdiagnosis is understandable [7] but it can also delay the diagnosis and increase the costs of treatment.

In this case, the patient went under CXR and it showed a broad pleural effusion. Also, computed tomography (CT) scan showed a hypodense mass containing fatty tissue in Anterior Mediastinum which can be diagnosed as teratoma. Since in such cases, the most decisive diagnostic and medicinal method is surgery [8,9] the patient was operated on and the tumor was resected. The results of pathology showed the mature cystic teratoma. It also showed that in addition to tissues such as teeth and skin as ectoderm, muscle cartilage as mesoderm, intestinal and respiratory elements as endoderm -which are usual in such cases- [10], in this case the tumor contained pancreas tissue which is rarely seen in an anterior mediastinal mature teratoma [1,11].

4. Conclusion

The results of this case study showed that in young patients presenting with massive pleural effusion, mature teratoma could be considered as a rare cause of it.

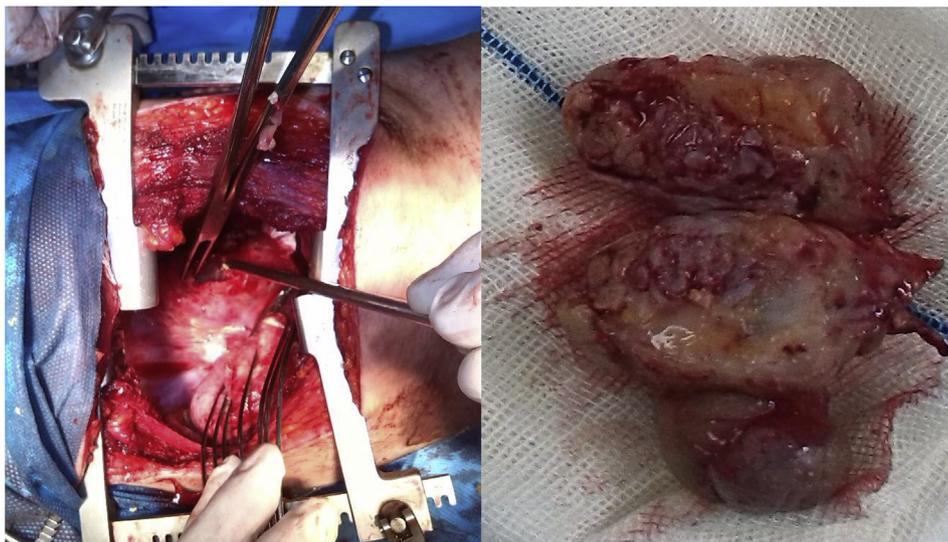


Fig. 3. Mediastinal teratoma before and after resection.

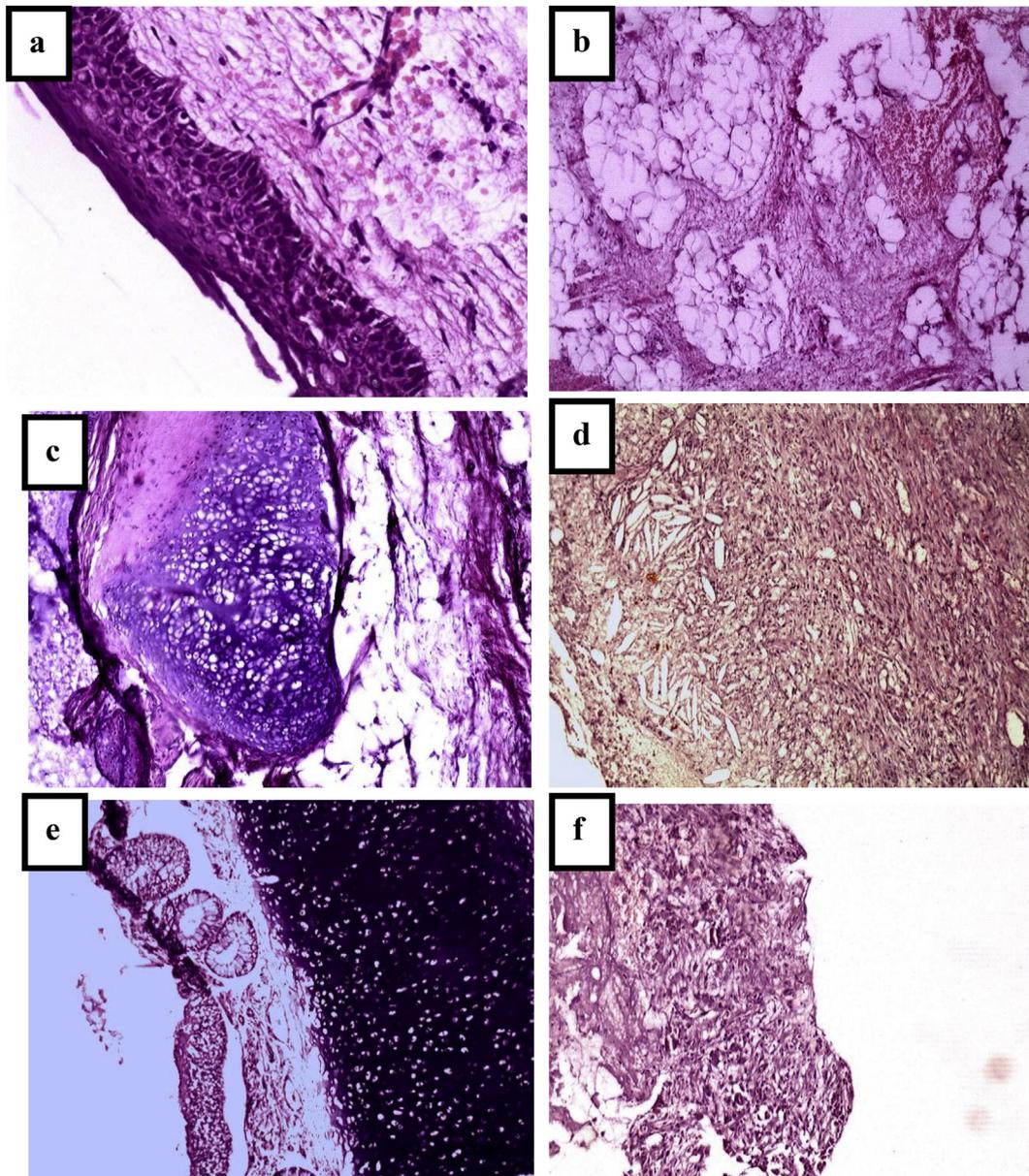


Fig. 4. Microscopic view of teratoma case of this study. **a:** Epidermis stratified squamous epithelium with keratinization and fibrous in dermis. **b:** Fatty tissue with lipocyte. **c:** Immature chondroid tissue consist of chondroblast. **d:** Cholesterol cleft. **e:** Glandular structure covered by columnar mucinous epithelial cell (gastrointestinal). **f:** Hemosydrin riched macrophage/histiocyte.

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