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Case Report
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Rapidly Growing Mediastinal Teratoma - A Case Report

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Abstract

A 37-year-old male migrant worker of Asian origin was admitted in the emergency room of the local city hospital with complains of severe chest pain and dyspnea. A chest X-ray showed an abnormal mass in right mediastinum. The CT-scan revealed a giant tumor in anterior mediastinum compressing the right atrium, aorta, brachiocephalic vein and the superior caval vein. The tumor was removed surgically through median sternotomy. The quick microscopy ruled out malignancy.

Keywords: Dyspnea; Teratoma; Mediastinum; Mass

Introduction

Teratomas are common mediastinal tumors [1]. Occasionally they can grow rapidly and cause severe compression to heart and neighboring structures [2]. They arise from germ cell and are formed of different tissues such as pancreas, teeth, bone, cartilage, hair, skeletal muscles [3,4].

Case Presentation

A 37-year-old male patient with complains of severe chest pain and dyspnea was admitted in the local city hospital. His complains of breathlessness, which began, 4 months ago, became severe and later were accompanied with a feeling of pressure and chest pain. The X-ray showed a mass in the right mediastinum. The CT-scan revealed a giant tumor in right mediastinum compressing heart and adjacent structures. The echocardiography showed a circular pericardial effusion and no other abnormality. For therapy, the patient was referred to our hospital.

Here, we performed an additional MRI thorax, which showed a tumor measuring 10.3 × 13.5 in the anterior mediastinum adjacent to the right atrium and aorta consisting of calcifications, cystic, solid and fatty parts. The hormone status was normal.

The patient underwent surgery through median sternotomy and the tumor was removed safely. The quick histopathology showed no malignancy but a mature teratoma. The tumor measured 13.0 cm × 10.5 cm × 6.0 cm and weighed 207.6 g, with multiple cysts consisting of grayish-yellow and reddish material.

Under the microscope, the cystic parts showed well-developed, keratinized squamous epithelium with skin appendages. Numerous blood cells, necrosis, sebaceous glands, pancreatic tissue, smooth muscle, bronchial cartilage and hair were also seen.

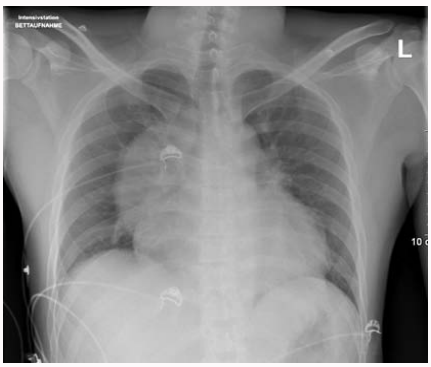

Figure 1: Chest X-ray showing mass in right mediastinum.

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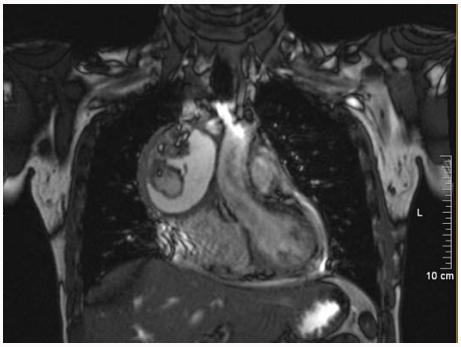

Figure 2: MRI image showing tumor with solid and cystic components in a T2 TRUFI sequence.

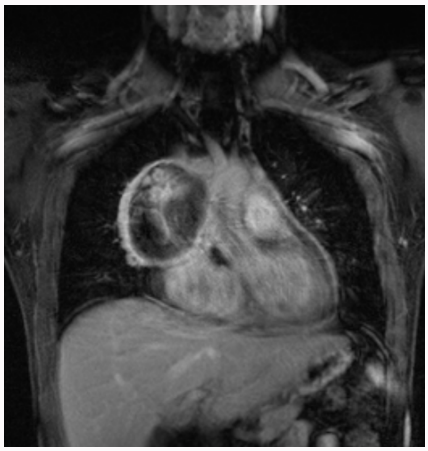

Figure 3: Showing contrast enhancement of the outer rim of the lesion after iv injection in a T1 vibe sequence.

The patient was discharged after nine days of uneventful stay in our hospital (Figures 1-3).

Discussion

The anterior mediastinum is frequent location of mediastinal teratomas [1,5]. 15% to 20% of mediastinal tumors are of germ cell origin and about 50% of them are benign teratomas. Depending on the growth of tumor, teratomas can be asymptomatic. They can grow rapidly and cause dyspnea, chest pain and even pericardial tamponade. They can penetrate and rupture into adjacent structures and cause hemoptysis, pericardial and pleural effusions, pneumonia etc. [2,5-7].

The pancreatic tissues are frequently observed in mediastinal teratomas, therefore patients with mediastinal teratomas can suffer from diabetes mellitus [8]. There are cases reported in patients with teratomas and IDDM. In our case too, the blood sugar was elevated initially and has dipped after operation to normal levels.

In conclusion, teratomas are mostly benign in nature but can grow very rapidly and cause severe life-threatening complications.

References

1. Strollo DC, Rosado de Christenson ML, Jett JR. Primary mediastinal tumors. Part 1: Tumors of the anterior mediastinum. Chest. 1997;112(2):511-22.
2. Asteriou C, Barbetakis N, Kleontas A, Konstantinou D. Giant mediastinal teratoma presenting with paroxysmal atrial fibrillation. Interact Cardiovasc Thorac Surg. 2011;12:308-10.
3. Nichols CR. Mediastinal germ cell tumors. Semin Thorac Cardiovasc Surg. 1992;4:45-60.
4. Silverman NA, Sabiston DC Jr. Mediastinal masses. Surg Clin N Am. 1980;60:757-77.
5. Sasaka K, Kurihara Y, Nakajima Y, Seto Y, Endo I, Ishikawa T, et al. Spontaneous rupture: A complication of benign mature teratomas of the mediastinum. AJR Am J Roentgenol. 1998;170:323-8.
6. Lewis BD, Hurt RD, Payne WS, Farrow GM, Knapp RH, Muhm JR. Benign teratomas of the mediastinum. J Thorac Cardiovasc Surg. 1983;86:727-31.
7. Choi SJ, Lee JS, Song KS, Lim TH. Mediastinal teratoma: CT differentiation of ruptured and unruptured tumors. AJR Am J Roentgenol. 1998;171:591-4.
8. Honicky RE, dePapp EW. Mediastinal teratoma with endocrine function. Am J Dis Child. 1973;126:650-53.