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A HUGE INTRAPERICARDIAL TERATOMA: A CASE REPORT

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FK concieved idea, did literature review and final drafting. HY reviewed case report. XEF helped in acquiring photographs. All authors contributed significantly to the submitted manuscript.

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ABSTRACT

Intrapericardial teratoma is a type of germ cell tumor and arises from stem cells derived from all three germinal layers. Intrapericardial teratomas are almost pedunculated, with attachment to the aortic root or pulmoanary vessels and are invariably associated with pericardial effusion.

Here we report a case of a large tumor revealed by thoracic computed tomography. Histopathology examination confirmed the diagnosis of an intrapericardial teratoma. Rarity of the lesion makes this case worthy of documentation.

Key Word: Teratoma; Thoracic Computed Tomography; Pericardial Effusion

INTRODUCTION

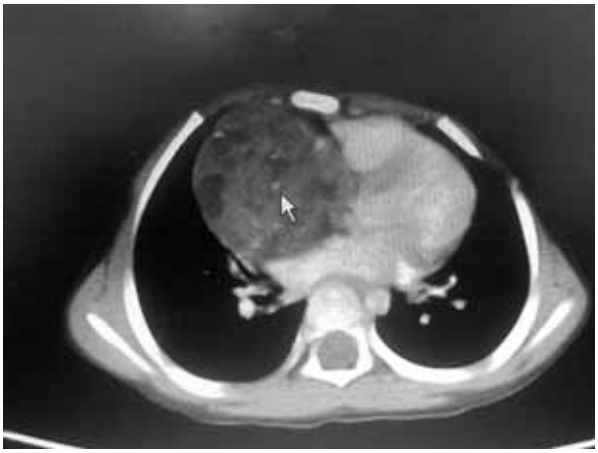
Teratomas are tumors of embryonic origin composed of tissue or organs derived from the three germinal layers including endoderm, mesoderm and neuroectoderm in varying degrees. Teratomas have been reported to contain hairs, teeth, bone etc.

Intrapericardial teratoma is a rare, congenital, pedunculated clinical entity. Two-thirds of these cases occurred in infants, half of whom were less than a month old. The most frequent site of teratomas is the gonads followed by the mediastinum. Ninety percent of the cardiac teratomas have been found in the pericardium and the rest in the myocardium.[1] The intra pericardial teratomas are generally benign tumors but may be life threatening because of large pericardial effusion and cardiac tamponade. Early surgical removal is curative.

CASE REPORT

A previously healthy, 9-years old boy came to our department presenting with slight swelling of right parasternal region, dyspnea and mild chest pain on exertion. On physical examination, he was tachypnic and dullness to percussion on the right upper parasternal region was found. The right jugular vein was little distended. Patient was afebrile. A transthoracic echocardiography and thoracic computed tomography revealed a large tumor inside the pericardium (Figure 1). The patient was prepared for the surgery. After general anesthesia, a median sternotomy was done. While opening the chest, no tumor was seen below the

Figure 1: Chest Computed Tomography with Tumor Inside Pericardium(arrow)



sternum and above the pericardium. The tumor was felt with the fingers which was in the right side of the heart near the aorta. We opened the pericardium and tumor was exposed. The tumor was large, well encapsulated and attached to a peduncle near the aortic root. The tumor compressed right atrium, right ventricle, aorta and superior vena cava and slightly the pulmonary artery (Figure 2). With proper care, the tumor was excised successfully without any bleeding. The tumor was sent for the histopathological examination (Figure 3). The patient had an uneventful recovery from the operation and was discharged home on post operative,7th day.

DISCUSSION

Among all the cardiac tumors, teratomas are grouped in the primary benign tumors, which account for 7% of cardiac tumors. The majority of the teratomas are located in the pericardium and can produce constrictive pericarditis.[2] The benign tumors include myxomas, lipomas, fibroelastomas, rhabdomyomas, hamartomas and others more. The malignant teratomas are included among the primary

Figure 2: Tumor Exposed before Excision

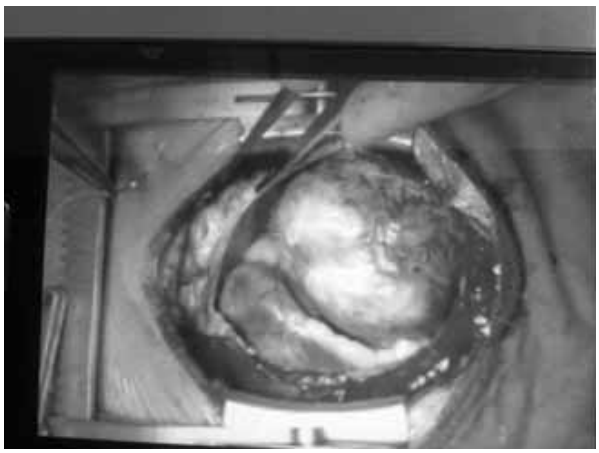


Figure 3: Tumor Specimen Sent for Histopathology

malignant tumors of the heart.[3]

The anterior mediastinal compartment (also known as anterosuperior compartment) is anterior to the pericardium and includes lymphatic tissue, the thymus, the extrapericardial aorta and its branches, and the great veins.[4] Mediastinal masses are generally located in the anterior mediastinum and more often tend to be malignant in nature. The tumors most frequently seen in this region are thymomas (32%), lymphomas (23%) and germ cell tumors (17%).

Teratomas are mostly found in the pericardium and along with malignant mesotheliomas, are the most common pericardial tumors. The pericardial teratomas are usually right-sided masses, usually connected to one of the great vessels via pedicle. Most of them lye within the pericardial sac and rarely can be intramyocardial. The intramyocardial lesions have occurred in newborns or in the first 6 years of life and most of them are asymptomatic but heart failure and sudden death may occur. Death from arrhythmia is caused by intraventricular location.[5,6]

The presence of pericardial effusion with compression is usually due to rupture rather than to the size of the tumor itself. Anterior mediastinal teratoma causing cardiac tamponade is a rare entity.[7,8]

The haemodynamic consequences of compression produce predominant cardiac symptoms and signs. This is due to typical location of the mass in relation to aortic root and the superior vena cava accompanied by compression of right atrium and ventricles as well as the pulmonary artery.[9]

The differential diagnosis includes other causes of anterior mediastinal masses, thymic tumors and other causes of pericardial effusion and primary heart lesions.[10] Amongst the intrapericardial tumors, intrapericardial teratoma is only second to rhabdomyoma which is the commonest intrapericardial tumor.

Complications usually seen with intrapericardial teratoma are cardiac tamponade, malignant changes, respiratory infections secondary to obstruction and esophageal obstruction.[11,12]

CONCLUSION

These tumors should be excised as soon as detected since it carries a malignant transformation and also may lead to the compression of essential vital structures as shown in the figure above. Surgical resection does not produce much difficulty as these tumors are pedunculated.

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