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Case Report

Mature cystic teratoma of anterior mediastinum: a case report

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ABSTRACT

Mediatinal mature cystic teratoma is a rare type of extra gonadal teratoma, comprising 1-5% of all mediastinal tumors. Its atypical presentation can sometimes lead to misdiagnosis, highlighting the importance of careful evaluation and intervention. We report a case of a 57-year-old male patient presenting with the complaints of chest pain and dyspnea on exertion associated with cough since 2-3 months prior to admission. Chest x ray showed a well-defined opacity in the right hemithorax. Patient underwent mass excision by median sternotomy approach. Histopathology confirmed the diagnosis of mature cystic teratoma. While anterior mediastinal teratomas are uncommon, complete surgical excision is often the primary and effective treatment. In many cases, successful removal without complications can lead to cure.

Keywords: Teratoma, Anterior mediastinum, Sternotomy

INTRODUCTION

A teratoma of the mediastinum is an uncommon germ cell tumor, comprising 1-3% of all mediastinal tumors.[1] It is an extragonadal germ cell tumor, originating from pluripotent cells.[2] Mature cystic teratomas are usually observed in the 2nd and 3rd decades of life.[3] Although, mediastinal germ cell tumors usually are detected incidentally on routine chest radiograph, they may become symptomatic when they are compressing vital mediastinal and cardiac structures.[4] We report a case of successful surgical management of a large anterior mediastinal mature cystic teratoma.

CASE REPORT

A 57-year-old male patient presented to NIMS hospital with the complaints of chest pain since 3 months and dyspnea on exertion since 2 months. Chest radiograph showed well defined opacity in the right lung, with mediastinal shift to left.

CECT chest showed large 10×10.3×13.7 cm pleuropericardial cyst with discontinuous nodular rim calcifications in the right anterior and middle mediastinum, Severe compression with displacement of mediastinal structures with sub segmental atelectatic bands in the adjacent lung parenchyma in the right middle lobe secondary to compression. Patient was planned for surgery. Approach was through median sternotomy, large mass of 14×12 cm size noted, occupying the right hemi-thorax and mediastinum, abutting the SVC and aorta, variable in consistency encasing on to right hemi-diaphragm. Mass was excised in-toto.

Histology concluded a diagnosis of mature cystic teratoma which was 11×10.6×6.5 cm, outer surface smooth covered with intact capsule with 600 ml pultaceous fluid with foreign body giant cell reaction inside. Post-operatively, patient improved clinically and radiologically. Patient was discharged was discharged on 7th postoperative day.

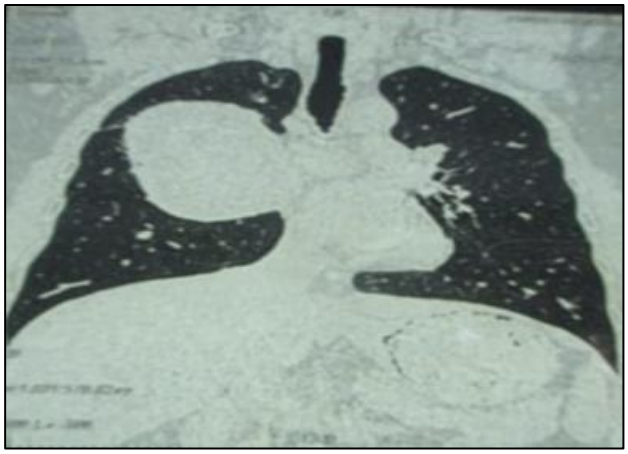

Figure 1: CECT chest showing large mass in the anterior and middle mediastinum.

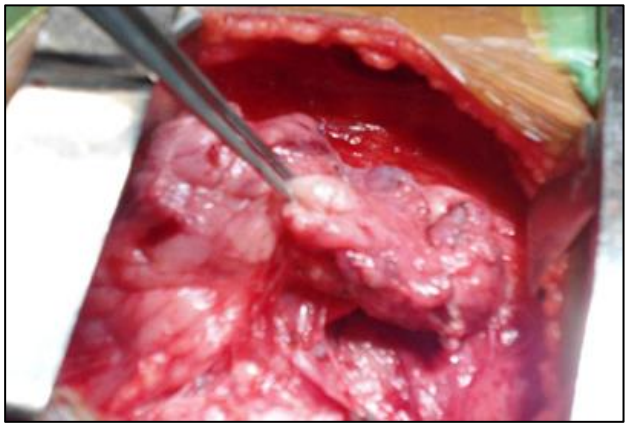

Figure 2: Mass held with the forceps.

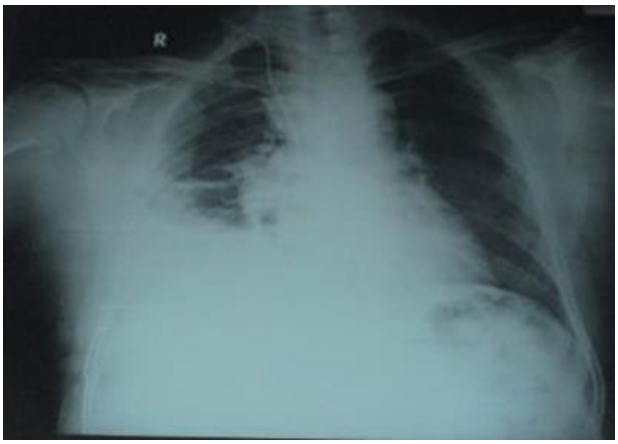

Figure 3: Chest X-ray taken on the 2nd postoperative day.

DISCUSSION

Teratoma is a rare type of germ cell tumor that arises from immature primordial germ cells, comprising 1-3% of all germ cell tumours.[1] First case was reported by Mohr in 1839. Originates from 2/3 germ cell layers. They arise from an error in migration of a multipotent germ cell along the urogenital ridge to the gonad during early embryogenesis. Mediastinal mature teratoma is a benign, slow growing neoplasm. Incidence worldwide is 1 in 4000 live births.[5] Common age of presentation 20-40 years.

Most are asymptomatic, symptoms due to compression can be dyspnea, chest pain, cough and respiratory distress.[6] Horner's syndrome and superior vena cava syndrome are rare. Rarely, these tumours may ruture or erode into adjacent structures and may result in complications like pleural effusion, pericardial effusion.[7,8]

They are seen as well-defined mass on chest radiograph. CT helps in identifying the size, content, uniformity. Calcification is reported in approximately 20-43%. Malignant transformation can be ruled out with contrast enhanced CT.[9] MRI helps in determining content and relation to surrounding structures. MRI is sensitive in depicting the infiltration of the adjacent structures.[10] Surgery is curative. Complications that can be observed are torsion, malignant degeneration, rupture and infection.

This patient underwent surgical excision. The management of mature teratoma consists of complete surgical excision. Prognosis is very good and 5-year survival is nearly 100% in contrast to immature teratoma which have aggressive behavior with poor prognosis.[4]

CONCLUSION

Mediastinal mature cystic teratoma indeed tend to be rare and often asymptomatic, typically discovered incidentally on chest X-ray. Evaluation with CT chest and echocardiography can help assess any compression on nearby structures. Surgical removal is typically recommended and is associated with favorable prognosis.

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