

Case Report

Teratoma of the Thymus Masquerading as Pleural Effusion

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Abstract: Teratomas are an infrequent and account for only 7- 11% of extra gonadal teratomas, in Pediatrics. We report a case of 6 years old, with a mediastinal mass causing pleural effusion. Pleural cytology was neagative. Computed Tomography suggested a mediastinal mass. Child's thoracotomy was done and mass was excised. Histopathology was suggestive of mature teratoma of thymus.

Keywords: Mediastinal mass, mature teratoma.

INTRODUCTION

The word teratoma is derived from Greek words "terato," meaning monster, and "onkoma," meaning swelling. A teratoma is a germ cell tumour derived from pluripotent cells and made up of elements of different types of tissue from one or more of the three germ cell layers [1]. The incidence of teratoma worldwide is approximately 1 in 4000 live births [2]. The most common reported sites are sacrococcygeal (40%), ovary (25%), testicle (12%), brain (5%) and others including neck and mediastinum (18%) [2]. Though teratomas are benign tumours, they can turn malignant [3].

CASE REPORT

Six years old Male child, 4th by order of birth, born of non- consanguineous marriage, had complaints of right sided chest pain since 4 months, which increased during inspiration. There was no history of cough, dyspnea, hemoptysis or weight loss. On clinical examination, child's vital parameters were stable. On systemic examination, Trail's sign negative, dull note on percussion over right mammary, infraclavicular, axillary and posterior basal aspects of chest with decreased air entry.

INVESTIGATIONS

Complete blood count, renal function test and electrolytes, liver function test were within normal limits. CXR s/o Right sided pleural effusion with mediastinal widening (fig 1). Pleural tap revealed clear fluid, total nucleated cells full of WBC's, N: 60 %, L: 40%, protein 2.3 gm/L, sugar 52 mg/dl, cytological evaluation was negative.

CT thorax showed 8.3 x 8x 8.2 cms well defined heterogeneous attenuated mass, containing cysts, fat attenuation and soft tissue component within anterior mediastinum, compressing right lung parenchyma and laterally reaching up to right pleura and lateral chest wall, inferiorly reaching up to xiphoid process, medially indenting right atrium, superior vena cava and abutting ascending aorta, right inferior pulmonary vein and right pulmonary artery suggestive of anterior mediastinal mass (fig 2).

Child's AFP, Beta HCG and LDH levels were within normal limits. Mass was excised and histopathology was s/o mature teratoma of thymus. Since, it was benign surgery was definitive treatment. Two weeks, on follow up, CXR & CT THORAX were within normal limits and pleural effusion had resolved. Child is being followed up every 3 monthly since 1 year and is doing well.

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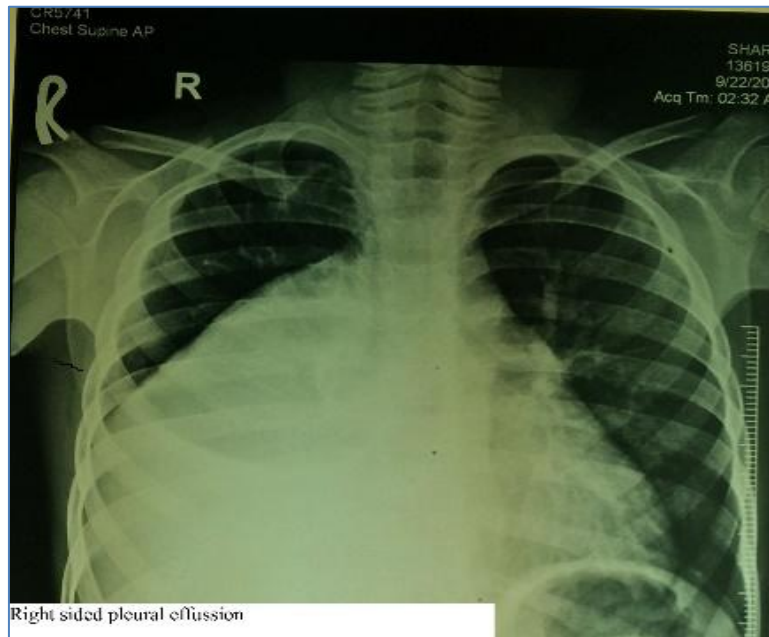


Fig-1: CXR right pleural effusion with mediastinal widening

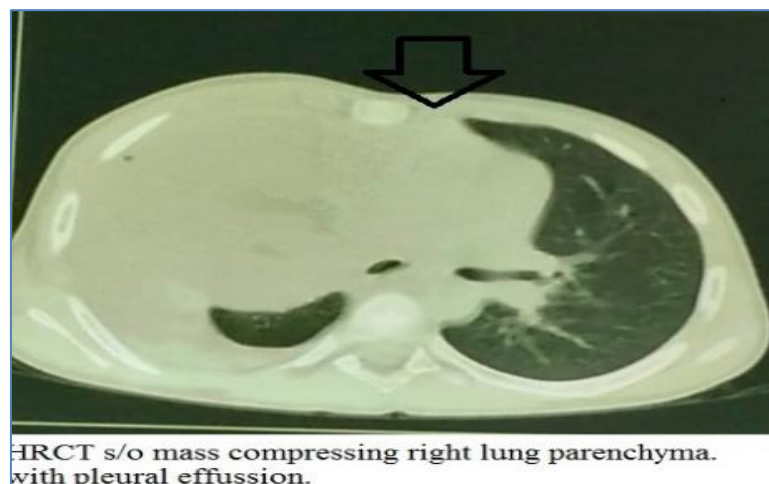


Fig-2: CT thorax extensive right cystic mass compressing lung parenchyma and pleural effusion

DISCUSSION

Teratoma or Germ cell tumours (GCTs) are predominantly found in the gonads and are classified as extra-gonadal if there is no primary tumour in testes or ovaries [6]. They typically arise in a midline location generated from all three germinal layers, with sites varying with age [5]. The mediastinum is the second most common site for teratomas in the paediatric age group [6] after thymomas, accounting for 8% of all mediastinal tumours. More than 80% of them are located in the anterior mediastinum [1]. Teratomas are equally common in boys and girls and seem to be more prevalent in adult males.

Our case is a rare presentation that involved a 6 year-old male patient. However, the lesion was located in the anterior mediastinum, as in most cases.

In addition, mediastinal GCTs are classified into mature teratomas and immature teratomas. Mature teratomas occur in all age groups but are more common in adolescents. They are generally benign and well-differentiated, usually grow slowly, and are more likely than other GCTs to be diagnosed incidentally while they are still asymptomatic [2]. The symptoms of mediastinal teratoma result mainly from compression of the mass on adjacent structures, causing chest pain, cough, respiratory distress and dysphagia [7].

Computed tomography is the modality of choice to ascertain diagnosis and to study the extent of mediastinal mass. Mediastinal mass are well circumscribed heterogenous mass with radiography features of multilocular cystic, solid and fatty components. Elevation of tumour markers like alpha fetoprotein and, beta HCG may indicate malignancy.

The treatment of choice is surgical excision; however tumour being close to vital organs, excision at times becomes difficult but mandatory. Adjuvant therapy has no role in treatment of mature teratoma [8].

CONCLUSION

As mature teratoma is benign tumors, they have excellent prognosis. But around one third cases of immature teratoma may have malignant features leading to recurrence in around one fourth of cases. The prognosis in adults is relatively poor as compared to children. A paediatrician should always remember the significance of diagnosing such teratomas and be vigilant about treating the condition promptly. A delay of the diagnosis and treatment can lead to worsening of the symptoms of the patient and may be fatal [4].

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