

**A CASE OF MEDIASTINAL TERATOMA MISDIAGNOSED AS A CASE OF EXTRA PULMONARY TUBERCULOSIS – A RARE CASE REPORT**Dilbag Singh<sup>1\*</sup>, Amritpal Kaur<sup>1</sup>, N. C. Kaja<sup>2</sup> and Srijna Rana<sup>2</sup><sup>1</sup>Junior Resident, Department of Pulmonary Medicine, Government Medical College, Amritsar, Punjab, India.<sup>2</sup>Professor, Department of Pulmonary Medicine, Government Medical College, Amritsar, Punjab, India.**\*Corresponding Author: Dilbag Singh**

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**ABSTRACT**

Teratomas are germ cell tumors, manifested with a great variety of clinical features; the most common extragonadal site is the anterior mediastinum. We report a case of such rare tumor in a young adult female of 16 yrs old who presented with persistent cough of one and half month duration. Computed tomography of the chest confirmed the diagnosis as anterior mediastinal teratoma. A detailed history, clinical examination, radiological examination, and histological tests helped in the diagnosis of the patient. We highlight the importance of suspicion, careful general examination, radiological assessment and histological tests to confirm the diagnosis of mediastinal teratoma misdiagnosed as Extra pulmonary tuberculosis.

**KEYWORDS:** Mediastinal Teratoma, Germ cell tumor, Extra Pulmonary Tuberculosis.**INTRODUCTION**

Germ cell tumors are predominantly found in gonads. Teratomas are classified to be composed of ectopic tissues from 2 or 3 germ layers, including mature, immature, or malignant components.<sup>[1]</sup> Most mediastinal teratomas produce no symptoms; they are more commonly associated with compression of mediastinal structures (great vessels, respiratory system). Teratomas mostly occur in young adults, with an approximately equal incidence in males and females.<sup>[2]</sup> Germ cell tumors are predominantly found in the gonads, and the most common extragonadal site is the anterior mediastinum.<sup>[3]</sup> Mediastinal germ cell tumors account for 15% of all mediastinal tumors in adults and 24% in children.<sup>[4]</sup> Of the tumors of the anterior mediastinum, benign cystic teratomas have excellent prognosis after complete surgical excision.

**CASE REPORT**

A 16-year-old female student patient presented with chest pain and dyspnea. The patient had been in her usual health until several months before presentation when dyspnea, dry cough, fatigue, and lateral chest pain developed. The patient had no history of medical or surgical problems; she could independently perform activities of daily living, and she had no history of smoking or drinking alcohol. The blood pressure was 110/70 mm Hg, the pulse was 78 beats per minute, oxygen saturation was 95%. On chest auscultation, breath sounds on the right side were absent, with no clinically detectable lymphadenopathy; the remainder of the examination was normal.

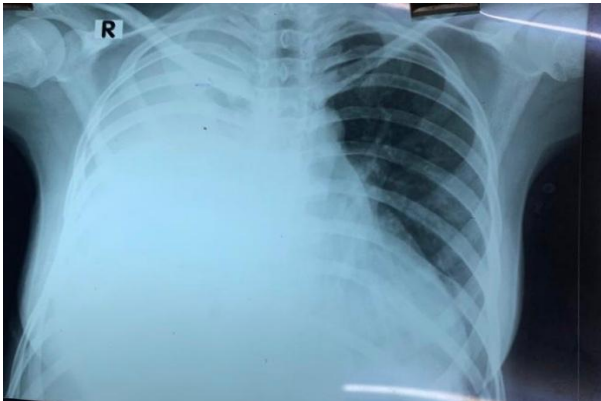
The chest X-ray showed a large opacity of the entire right hemithorax. Thoracocentesis was done and the cytological analysis shows the presence of many polymorphonuclear structures and lymphocytes. Biochemical analysis of fluid examination shows the exudative picture with the proteins - 4.6g/l, glucose - 20 with ADA - 68. The Xpert MTB/RIF detects no DNA sequences specific for Mycobacterium tuberculosis in fluid aspiration. Blood levels of glucose, total protein, creatinine, aspartate aminotransferase, and alanine aminotransferase were normal. Mantoux test, serology of HIV were negative. Based on these findings patient was started on Anti Tubercular Therapy. Few weeks later, the symptoms worsened, and new dyspnea on exertion and cough developed. Chest X-ray revealed opacity at the lower part of the right hemithorax.

CT scan was obtained and showed a mass of the right hemithorax involving anterior mediastinum extending on right side causing contralateral displacement of mediastinal vessels, trachea and oesophagus.

Pathological examination of the mass revealed mature teratoma with cystic structures lined by stratified squamous epithelium and at places cartilage, respiratory epithelium, pancreatic epithelium, urothelial epithelium, mucous secreting glands, muscle fibers, and epidermal cyst. The diagnosis of teratoma was made which was misdiagnosed as Extra pulmonary tuberculosis.

The mediastinum tumor markers (alpha fetoprotein and beta human chorionic gonadotropin) were both normal.

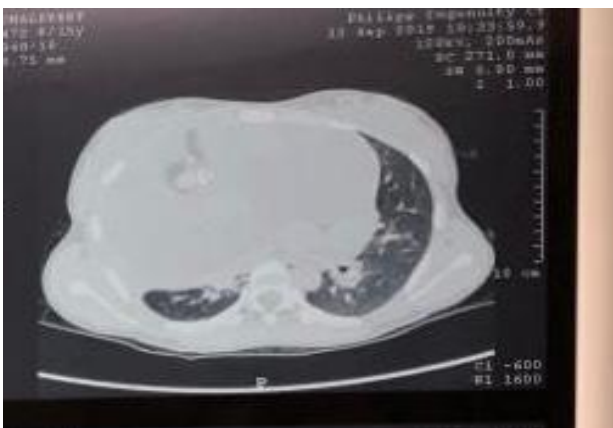
The patient underwent a total resection of the mediastinum mass via right posterolateral thoracostomy and entry into the pleural space was performed; the two pleural layers were intact.



**CHEST X ray (Figure: 1.) Shows opacification of right hemithorax.**



**CHEST X ray (Figure: 2.) Shows homogeneous opacity at right middle and lower zone.**



**CECT Chest (Figure: 3.) Shows large multicystic peripherally enhancing mass lesion of size 16\*10\*12.5 cm seen involving anterior mediastinum extending on right side.**



**CECT Chest (Figure: 4.) Shows significant mass effect and contralesional displacement of mediastinal vessels, trachea, oesophagus and heart.**

## DISCUSSION

Teratomas are germ cell tumors and they are uncommon neoplasms that arise in the gonads; the mediastinum is the second most common extragonadal site of these tumors.<sup>[5,6]</sup> In fact, several theories exist; one of them suggests that benign teratoma is derived from the region of the third bronchial cleft or pouch. A second theory states that these tumors arise from germinal nests of cells located along the urogenital ridge that failed to migrate to the gonads in embryological development.<sup>[7]</sup> Primary mediastinal nonseminomatous germ cell tumors (NSGCT) are uncommon neoplasms and are clinically and biologically distinct from other germ cell tumors, and they are classified as a poor prognosis group in the IGCCC.<sup>[8]</sup> Benign teratomas are often asymptomatic and are discovered on chest radiograph for unrelated reasons, but sometimes they give symptoms leading the patient to consult. In the case reported, the patient had chest pain, dyspnea, and dry cough. If symptoms are present, this will be because of the mass effect caused by mediastinal teratoma. Radiology exams reveal usually a well-circumscribed mediastinal mass that often protrudes into one of the lung fields. Pleural effusion also can be the most common ancillary CT finding in ruptured mediastinal teratomas. In the case under discussion, CT scan showed a mass of the right hemithorax extended to the whole right pleural space.

## CONCLUSION

Even though anterior mediastinal teratomas are uncommon tumors, complete excision of the tumor without any surgical complication is possible in most of the cases. Hence, these tumors can be cured by surgical excision.

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