

## **Abstract**

Germ cell tumours mainly occur in the gonads and occasionally can occur in extragonadal locations. The most common site among extragonadal locations is the anterior mediastinum. Primary mediastinal germ cell tumours account for 10-15% of anterior mediastinal masses. Mixed germ cell tumour is a subtype of them which are usually symptomatic at the time of presentation. The symptoms are commonly either constitutional symptoms, dyspnea or chest pain. This patient with primary mediastinal germ cell tumour had a rare presentation as an empyema.

We report a case of a previously healthy young male who came with exertional shortness of breath, chest pain and cough for three months and worsening symptoms over one week. He was diagnosed to have an empyema by initial clinical, biochemical and radiological assessment. Complicated parapneumonic effusion is the most common cause of empyema that we encounter in our clinical practice. This was unlikely in this patient clinically and radiographically. As Sri Lanka is an endemic country for tuberculosis, extrapulmonary tuberculosis causing tuberculous empyema was also considered. However, from the pleural fluid biochemical and microbiological analysis, tuberculosis was excluded. As there was evidence of possible lung collapse coexisting with a large empyema, further imaging was performed which revealed a large anterior mediastinal mass with possible liver metastasis. With histology and immunohistochemistry, it was diagnosed as a mixed germ cell tumour. As there was no primary tumour in the gonads, this was confirmed to be a primary mediastinal germ cell tumour. Following diagnosis, he was directed for chemotherapy. Surgical resection was not possible due to the large size of the tumour and possible liver metastasis. Surgical resection would be reconsidered in future following chemotherapy.

This case report highlights the importance of early imaging with CT in patients presenting with empyema without underline pneumonia, as the empyema can be associated with malignant mediastinal tumours. Primary mediastinal germ cell tumors, especially mixed germ cell tumors have a poor prognosis as compared to their genital counterpart.