



## Clinical Image

## Primary mediastinal large b-cell non-hodgkin's Lymphoma

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## Keywords:

Chest computed tomography (CT)

Chimeric antigen receptor (CAR)

Non-Hodgkin lymphoma (NHL)

## 1. Introduction

A 23-year-old male patient with no prior chronic illness presented to the emergency department with chest pain, shortness of breath, and dry cough for two weeks. He denied fever, weight loss, night sweats, cigarette smoking, or contact with sick people. Clinical examination was unremarkable. Chest X-ray showed a wide mediastinum (Figure 1), while contrast-enhanced chest computed tomography (CT) showed a large soft tissue mass in the anterior mediastinum, which significantly displaced the visceral structures posteriorly (Figure 2). The differential diagnoses included: lymphoma, germ cell tumor, thymic carcinoma, primary sarcoma, and metastatic choriocarcinoma. A thoracic surgeon was consulted, who decided to remove the mass and send samples for histopathological examination. After histopathological examination of the removed tumor, the diagnosis of primary mediastinal B-cell non-Hodgkin lymphoma (NHL) was made. The patient was referred to a hematology hospital to continue management.

NHL is a type of neoplasm that arises from lymphoid tissues, specifically from B cell precursors, mature B cells,

T cell precursors, and mature T cells. <sup>1</sup> Primary mediastinal B-cell lymphoma represents a rare variant of NHL, comprising approximately 2-3% of all NHL diagnoses. <sup>2-4</sup> It occurs more frequently in female patients. <sup>4</sup> The clinical manifestation of NHL can vary significantly; however, it is typically associated with a rapidly growing mass in the mediastinum. This mass exerts pressure on neighboring structures within the mediastinum, including the lungs, superior vena cava, and other vascular components.

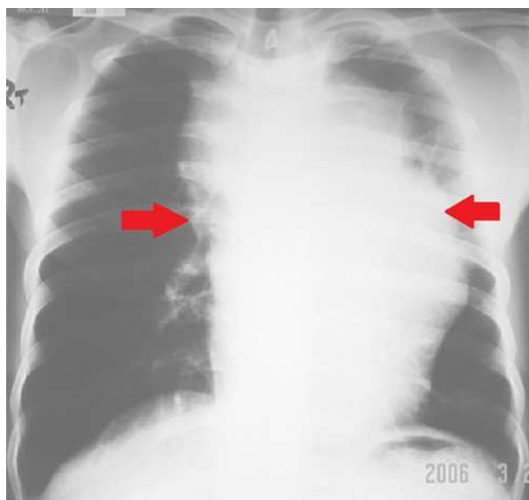
The approach to managing non-Hodgkin lymphoma differs significantly depending on the particular subtype and stage of the disease. Common treatment modalities often encompass chemoimmunotherapy, radiotherapy, hematopoietic stem cell transplantation, and chimeric antigen receptor (CAR)-T cell therapy. <sup>1</sup>

## 1.1. Learning Points

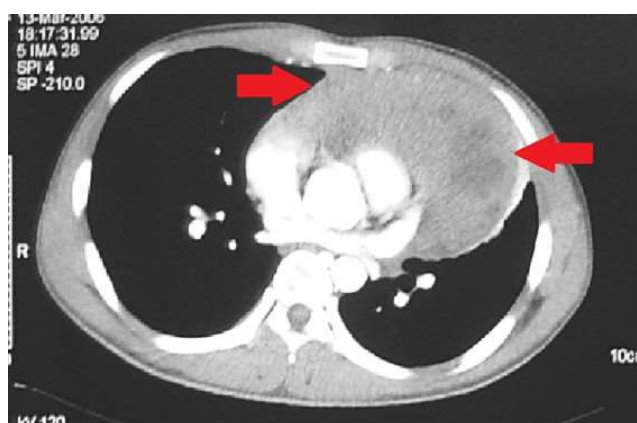
1. Although uncommon, primary mediastinal large B-cell NHL can affect male patients
2. Despite its rarity, healthcare professionals should remain vigilant for primary mediastinal large B-cell NHL in patients who exhibit shortness of breath accompanied by a significant anterior mediastinal mass.

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**Figure 1:** Shows a wide mediastinum (Red arrows)



**Figure 2:** Shows a large soft tissue mass in the anterior mediastinum (Red arrows)

## 2. Consent

Written informed consent was obtained from the patient for publication of this case report.

## 3. Authors' Contribution

All authors contributed to the completion of this work. The final manuscript was read and approved by all authors.

## 4. Conflict of Interest

None.


## 5. Source of Funding

None.

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