International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Holy Cyst! Solitary Pulmonary Cystic Mass Presenting as Diffuse Large B Cell Lymphoma

J Ramah[1], A Michaud[2]

Georgetown Public Hospital Corporation, Georgetown, Guyana
Email: *joshuaramah2017[at]gmail.com*

Abstract: ***Diffuse large B - cell lymphoma (DLBCL) represents the most common subtype of non - Hodgkin lymphoma[1], characterized by its aggressive clinical course and heterogeneity. Although approximately 40% [2]of Diffuse large B - cell lymphoma have secondary lung involvement, the uniqueness of this case is the radiographic presentation and the lung as its primary site of origin. An 82 - year - old male with a history of recurrent Deep vein thrombosis (DVT), essential tremors, and benign prostatic hyperplasia (BPH) who is currently on long - term anticoagulation therapy presented with complaints of progressive weakness, cough, and shortness of breath for one month. He also reported an associated 20 lbs. weight loss in the past six months. His review of systems was negative. Physical examination findings revealed mildly decreased breath sound to the right apex. His laboratory results were non - contributory and showed negative echinococcus and HIV serology. Chest x - ray revealed a large lesion with heterogeneous attenuation 8.8 x 9.0 x 9.3 cm centered within the right apical lung zone with no apparent invasive component into the mediastinum or soft tissue spaces of the neck. This was followed by a non - contrast Computed tomography (CT) of the chest, which showed a heterogeneous fatty attenuation lesion with significant mediastinal and axillary lymphadenopathy measuring 1.3 cm. Given the CT findings and otherwise negative work - up, two weeks after the initial CT, the patient received Computed tomography of the chest, abdomen, and pelvis (CT CAP) showing necrotic appearing mediastinal, axillary and supraclavicular lymph nodes enlarged compared to the previous scan with thick internal septations and debris within the cyst. He subsequently had an Ultrasound - guided lymph node biopsy with histopathology revealing a diffuse infiltrate of large B - cell lymphoma cells. The patient refused any further intervention or chemotherapy and was discharged. He was later readmitted and treated for aspiration pneumonitis and subsequently placed on hospice care as per his request.***

Keywords: Case Report Solitary cystic mass Diffuse Large B Cell Lymphoma

1. Introduction

Diffuse Large B Cell Lymphoma are among the most common types of Non - Hodgkin's Lymphoma. Representing about 25 - 35% of the total cases.[1] Clinical presentation includes constitutional symptoms along with a rapidly enlarging solid mass or progressive lymphadenopathy.1 Diagnosis is confirmed by lymph node biopsy, which histologically shows sheets of large cells that disrupt the underlying structural integrity of the follicle center.3 This case aims to highlight a rare presentation of diffuse large B cell lymphoma presenting as a solitary cystic mass. It is hoped that this poster contributes to the understanding of the various presentations of DLBCL.

2. Case Description

A 82 - year - old male with a history of recurrent Deep vein thrombosis (DVT), essential tremors, and benign prostatic hyperplasia (BPH) who is currently on long - term anticoagulation therapy presented with complaints of progressive weakness, cough, and shortness of breath for one month. His shortness of breath is worse on exertion, and he describes each occurrence as having to "pause to catch his breath. " His cough was non - productive, intermittent, and persistent. He also reported an associated 20 lbs. weight loss in the past six months. His review of systems was negative for fevers, chills, chest pain, orthopnea, dysphagia, vomiting, diarrhea, melena, hematochezia, and urinary symptoms. He denies any history or exposure to tuberculosis, pets, alcohol, recreational drugs, or tobacco use. Denies any family history of cancer.

Physical examination findings revealed mildly decreased breath sound to the right apex and severe bilateral resting tremor with pill rolling - the right hand was affected more than the left. There was no evidence of lymphadenopathy, adventitious breath sounds, abdominal masses, or organomegaly. His initial vitals were unremarkable except for a decrease in oxygen saturation, 93%.

3. Diagnostic Workup

His laboratory results were non - contributory and showed negative echinococcus and HIV serology. Serum - free light Chain Assay, κ/λ Ratio, and urine protein electrophoresis (UPEP) were also within normal range. Chest x - ray revealed a large lesion with heterogeneous attenuation 8.8 x 9.0 x 9.3 cm centered within the right apical lung zone with no apparent invasive component into the mediastinum or soft tissue spaces of the neck (**Figure 1 - 2).** This was followed by a non - contrast Computed tomography (CT) of the chest, which showed a heterogeneous fatty attenuation lesion with significant mediastinal and axillary lymphadenopathy measuring 1.3 cm. This appearance was in keeping with a Pulmonary hydatid cyst, and an MRI was recommended because of concerns for anaphylactic shock with rupture but was deferred due to difficulties in obtaining one.

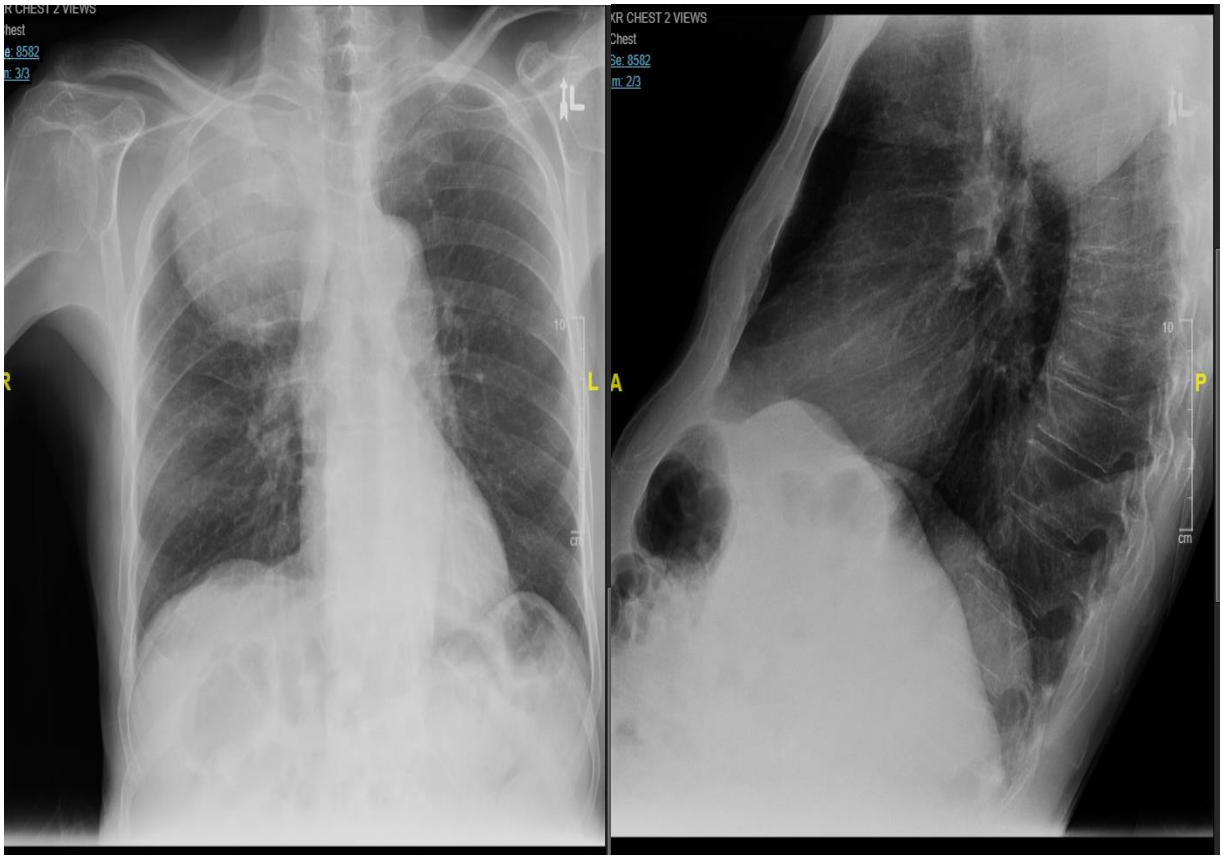

Figure 1- 2

Given the CT findings and otherwise negative work - up, two weeks after the initial CT, the patient received Computed tomography of the chest, abdomen, and pelvis (CT CAP) showing necrotic appearing mediastinal, axillary and supraclavicular lymph nodes enlarged compared to the previous scan with thick internal septations and debris within the cyst (**Figure 3).** Along with new splenomegaly with multiple small focal indeterminate splenic lesions.

He subsequently had an Ultrasound - guided lymph node biopsy with histopathology revealing a diffuse infiltrate of large B - cell lymphoma cells.

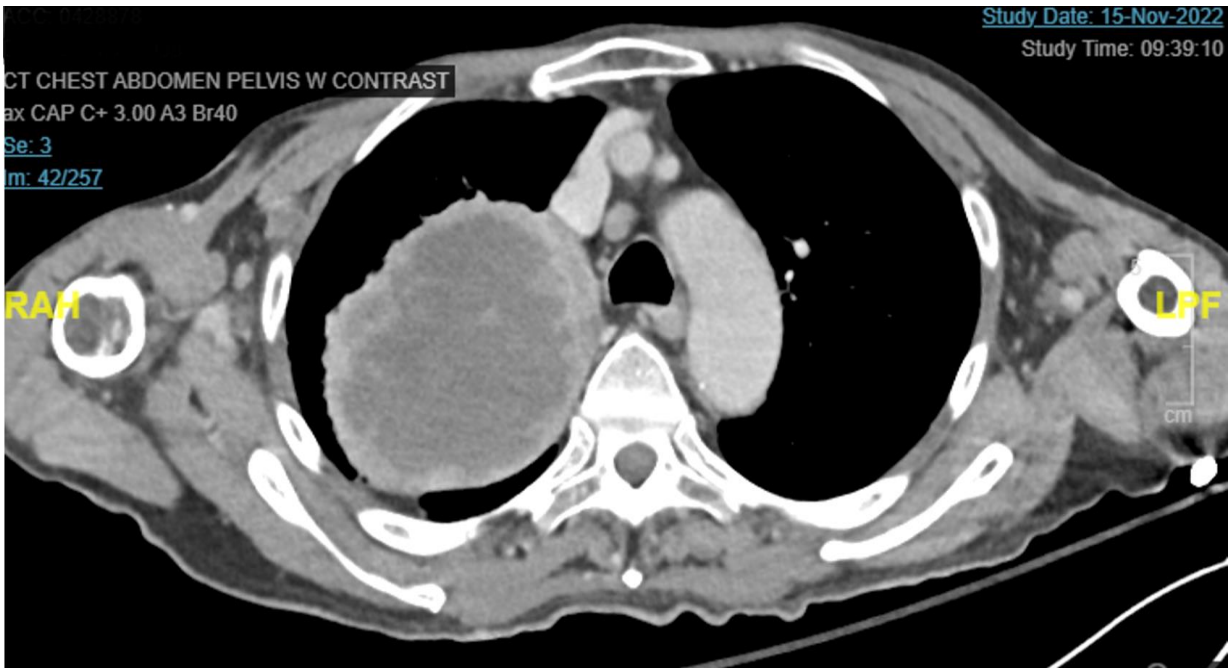

Figure 3

Ultrasound	**Chest**: Right upper lobe lesion that is well circumscribed with no mass effect. Very minimal adjacent pleural thickening, no aggressive features, no lymphadenopathy. **Liver:** No cystic lesion.
Chest X Ray	Large lesion with heterogeneous attenuation 8.8 x 9.0 x 9.3 cm centered within the right apical lung zone. No apparent invasive component into the mediastinum or soft tissue spaces of the neck. CXR 15 years ago was unremarkable.
Non Contrast CT Scan Chest	Heterogeneous fatty attenuation lesion measuring 8.8 x 9.0 x 9.3 cm within the right apical zone. Significant mediastinal and axillary lymphadenopathy measuring 1.3 cm. Appearance in keeping with Pulmonary hydatid cyst.
Contrast CT Scan Chest Abdomen + Pelvis	Notable necrotic appearing mediastinal, axillary and supraclavicular lymph nodes enlarged compared to previous scan 2 weeks ago with thick internal septations and debris within the cyst. New splenomegaly with multiple small focal splenic lesions, indeterminate May represent involvement of either malignancy or infection.
CT Scan head	No cystic lesions. No intracranial abnormality.
Lymph Node Biopsy	Histopathological examination revealed a diffuse infiltrate of large B - cell lymphoma cells.

(Figure 4)

Outcome

The patient refused any further intervention or chemotherapy and was discharged. He was later readmitted and treated for aspiration pneumonitis and subsequently placed on hospice care as per his request.

4. Discussion

Although the occurrence of lymphoma with lung involvement is a relatively common phenomenon, with approximately 40% [2] of Diffuse large B - cell lymphoma having secondary lung involvement, primary pulmonary Diffuse large B - cell lymphoma (DLBCL) as a cystic lesion is extremely rare. Primary pulmonary Diffuse large B - cell lymphoma (DLBCL) accounts for about 1% of all primary pulmonary malignancies [5]. The diagnosis is often challenging due to the similarity of its symptoms with those of other respiratory diseases, i. e., lung cancer, tuberculosis and hydatid cysts. The uniqueness of this case is the radiographic presentation and the lung as its primary site of origin.

5. Conclusion

Early recognition and initiation of treatment for DLBCL may lead to favorable outcomes. However, this unusual manifestation can pose a diagnostic challenge, necessitating a comprehensive understanding of its clinical presentation, pathophysiology, and management. Standard imaging techniques are limited in diagnosis and require comprehensive histopathological and immunohistochemical evaluations to establish an accurate diagnosis. This case emphasizes the need for a comprehensive approach to diagnosis and treatment in atypical presentations of DLBCL.

References

[1] Sandeep A. Padala; Avyakta Kallam. Diffuse Large B - Cell Lymphoma https: //www.ncbi. nlm. nih. gov/book. . Date Retrieved: November 8, 2023.
[2] Hare SS, Souza CA, Bain G, Seely JM, Gomes MM, Quigley M. The radiological spectrum of pulmonary lymphoproliferative disease. Br J Radiol 2012; 85: 848–864.
[3] Yang Liu, Stefan Klaus Barta (2019) Diffuse large B - cell lymphoma: 2019 update on diagnosis, risk stratification, and treatment Retrieved From https: //pubmed. ncbi. nlm. nih. gov/30859597/ November 8, 2023
[4] Daniel Cassidy, MD, Yi Zhou, MD, PhD (2021) Gastrointestinal Tract Lymphomas: A Review of the Most Commonly Encountered Lymphomashttps: //meridian. allenpress. com/aplm/article/145/12/1585/463981/Gastrointestinal - Tract - LymphomasA - Review - of - the Date Retrieved: November 8, 2023
[5] Zinzani, P. L., Martelli, M., Poletti, V., Vitolo, U., Gobbi, P. G., Chisesi, T., Barosi, G., Ferreri, A. J., Marchetti, M., Pimpinelli, N., Tura, S., Italian Society of Hematology, Italian Society of Experimental Hematology, & Italian Group for Bone Marrow Transplantation (2008). Practice guidelines for the management of extranodal non - Hodgkin's lymphomas of adult non - immunodeficient patients. Part I: primary lung and mediastinal lymphomas. A project of the Italian Society of Hematology, the Italian Society of Experimental Hematology and the Italian Group for Bone Marrow Transplantation. Haematologica, 93 (9), 1364–1371. https: //doi. org/10.3324/haematol.12742