

# A Rare Case of Pulmonary Embolism

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## Abstract

Pulmonary embolism is the occlusion of the pulmonary arteries by blood or foreign material. Commonly pulmonary embolism is seen when thrombus from the deep veins of the legs or pelvis embolise into the pulmonary artery. Rarely tumours, vegetations can embolise to pulmonary artery. We report a rare case of a haematological malignancy presenting as right atrial mass and pulmonary embolism, in a young male.

## Case Description

A 20 years old, engineering student, came with history of being unwell for 1 week and progressively worsening breathlessness of a short period of 5 days. He had no significant family history and no significant illness in the past. On presentation he was hemodynamically stable requiring 4 litre/min supplementary O<sub>2</sub> via nasal prongs. General examination revealed small axillary and left supraclavicular lymph nodes. Systemic examination was unremarkable. Echocardiogram (Figure 1) revealed a mass in the right atrium, measuring 2 cm X 1 cm (approximately). Further evaluation with CT-Chest and Abdomen (Figures 2 and 3) revealed hypodensity in both the pulmonary arteries, wedge shaped areas of space opacification in the lung (pulmonary infarcts), splenic infarct and multiple lymph nodes in the abdomen, a small polypoidal hypodense mass in the right atrium. Cardiac MRI confirmed the mass lesion in the right atrium. A possibility of infective pathology (Tuberculosis) versus non infective (malignancy, probably lymphoma) was thought of. Bone marrow aspiration and biopsy



Fig. 1: Echo image showing mass in right atrium

showed atypical mononuclear cell infiltrates suggestive of leukaemia / lymphoma. Cervical LN biopsy (Figure 4) was suggestive of Non-Hodgkin's lymphoma. He was started on FLAG regimen chemotherapy under the care of Haematologist. He decided to continue treatment in hometown. Awaits follow up, reassessment of the right atrial mass and pulmonary arteries by CT scan.

## Discussion and Review of Literature

Pulmonary embolism can result from various other causes apart from thromboembolism. Incidence of cardiac involvement by lymphoma is 8.7 to 20%.<sup>1</sup> Haematological malignancy with RA mass and Pulmonary embolism at presentation, is very rare. Primary tumours with secondary cardiac involvement in descending order of frequency of involvement are: Lungs > oesophagus > lymphoma > liver > leukemia (in males) and Lung



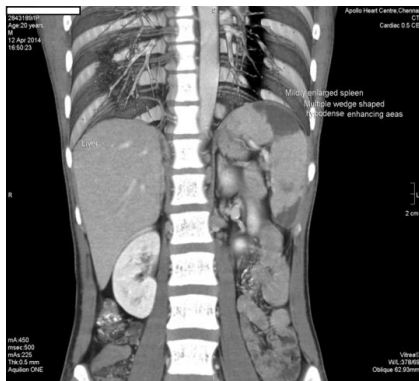
Fig. 2: CT-Thorax showing occluded pulmonary arteries

> Lymphoma > Breast > Pancreas (in females).<sup>2</sup> The commonest site of cardiac involvement is pericardium (epicardium) followed by myocardium, endocardium (least common). The frequency of cardiac involvement, detected at autopsy, in Hodgkin's lymphoma is 18% and NHL is 16%.<sup>3</sup> Also cardiac involvement has been reported after a median involvement of 20 months after diagnosis of haematological malignancy. Early presentation with cardiac involvement at the time of diagnosis, as in our case, is rare. Suspicion of these unusual causes should be kept in mind. Primary cardiac tumours Lymphoma as primary cardiac tumour extremely rare (1.3%) and usually seen in immunocompromised state. B-cell lymphoma are the commonest among the primary cardiac lymphoma. Our patient was a physically active young male with no risk factors for deep vein thrombosis and a very short duration of symptoms. This patient was not thrombolysed because of high index of suspicion for something other than thrombus occluding the pulmonary arteries. In literature three similar case of lymphoma presenting as pulmonary embolism have been reported. First is a case of fatal neoplastic pulmonary embolism due to primary lymphoma of the right atrium reported by Bestetti R, et al in 1992.<sup>4</sup> Another case reported by Skalidis E, et al in 1999, was a case of B-cell lymphoma presenting as pulmonary embolism.<sup>5</sup> Another case of primary cardiac lymphoma with pulmonary embolism was reported by Gabriel Pérez Baztarrica, et al in 2010.<sup>6</sup>

## Clinical Implication

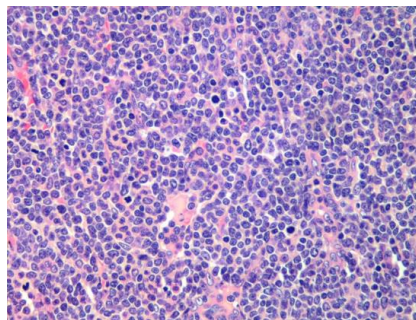
The limitation in our case was that we could not get a definite tissue diagnosis of the right atrial mass as the patient was not fit to undergo any surgical procedure at that time. The take home message here is that all masses in the atrium may not be

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**Fig. 3: CT-Abdomen showing splenic infarct**

thrombus or vegetations. Unusual presentation of pulmonary embolism needs high index of suspicion for other



**Fig. 4: Cervical lymph node biopsy suggestive of non-hodgkins lymphoma**

causes like tumour embolism, systemic or haematological malignancy, to enable one to proceed with correct line

of management.

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