

Pericardial Tamponade as An Unusual Presentation of Carcinoma Lung

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Abstract

Pericardial tamponade a dire emergency is rarely the first presenting symptom in malignancies. Here we are presenting a case of thirty five year old male with lung carcinoma who was transferred to our department for pleuro-pericardial window procedure for pericardial tamponade as the echo guided tap was failed. The most important thing was lung carcinoma was undiagnosed at that time. Pericardial biopsy revealed metastasis of lung carcinoma. Documentation of such type of cases is important because lung carcinoma usually presents with classical history of hemoptysis and cough rarely pericardial metastasis and effusion. In India most common cause of pericardial effusion is Tuberculosis, another important thing in this patient was nonsmoker, as the lung carcinoma is common in smokers.

Keywords: Cardiac tamponade, Lung carcinoma, Pericardial effusion

INTRODUCTION

In India tuberculosis is the most common cause of pericardial effusion and worldwide it is lung cancer, it can also occur with breast cancer, leukemia and lymphoma.¹⁻³ Pericardial tamponade in patients with malignancies is rarely seen as presenting symptom.^{2,3}

Lung cancer is the most common form of malignancy and usually accompanied by pulmonary symptoms, lung cancer initially presents diverse and sometimes dramatic occurrences. Retro-grade invasion of primary lung tumor from the mediastinal nodes to the epicardial plexus can cause lymphatic obstruction of fluid from the pericardial sac, resulting ultimately in cardiac tamponade. Usually cardiac tamponade is the last symptom to occur in lung malignancies but in our case it is the initial symptom so it needs urgent medicinal intervention.

CASE REPORT

A 35 year old man was referred to our cardiac surgery department with cardiac tamponade for emergent surgical intervention as the patient was having massive pericardial effusion and cardiac failure that was nonresponsive to medical management. Patient had history of shortness of breath, chest pain and palpitation from 6 month with no h/o cough and hemoptysis. Patient was nonsmoker. At the time of presentation heart rate was 124 per minute, B.P. 90/50, respiratory rate 30, temperature 37°C, heart sound was merely audible and other routine examinations were with-in normal limits. However in Chest X-ray there was hazy opacity in left side (Figure 1). Patient was taken to emergency operation theatre for creating pericardial window. Standard left thoracic incision was given in 5th intercostal space; lung was retracted to approach the heart. There was massive pericardial effusion, approximately

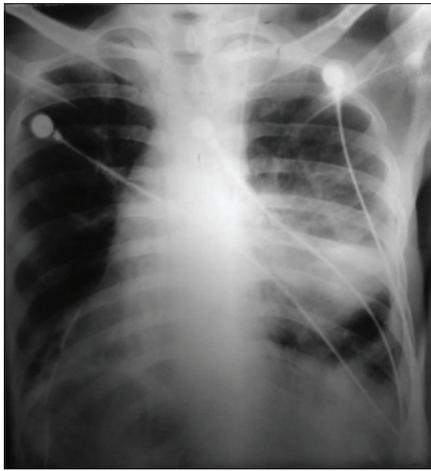


Figure 1: Chest X- Ray showing left sided opacity

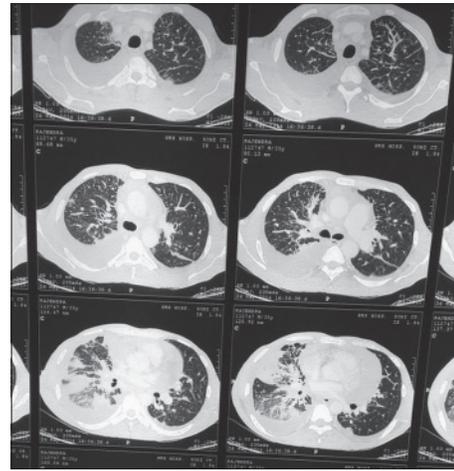


Figure 2: C.T. scan showing pleural and pericardial effusion with left sided lung mass

800-900 ml of effusion was removed, and effusion was hemorrhagic. Pericardial window created and biopsy taken. Biopsy revealed that it was a metastatic lesion from lung carcinoma. Finally C.T. chest and other investigations were in favor of lung malignancy (Figures 2 and 3).

After symptomatic relief patient was transferred to our chemotherapy department for further management.

DISCUSSION

Pericardial effusion, pleural effusion and ascites are a well-known complication of many advanced malignancies such as lung cancer, breast cancer, lymphomas and leukemias.^{1,2} The most common reason of pericardial effusion is lung cancer in worldwide and in India it is pulmonary tuberculosis. Metastasis of pericardium due to malignancies has in various extents been found in autopsy series, differing from 1.5 to 21%.^{2,4} Invasion of adjacent lymph nodes leads to obstruction of lymphatic drainage, and eventually to accumulation of the pericardial fluid. Pericardial effusion causing tamponade is usually an emergency. Due to cardiac diastolic phase limitations, the patient presents with CHF (congestive heart failure) i.e. congested jugular veins, tachycardia, arrhythmia, and low voltage criteria on electrocardiograms.^{1,2} A simple chest X-ray (Figure 1) may reveal broadening of mediastinum and cardiac shadow, implicating a fluid accumulation i.e. pericardial effusion.^{1,2,4} Patients with pericardial tamponade should at first be treated with echo-guided pericardial tapping for urgent relief.^{2,4} Only patients with recurrent pericardial effusions or those where echo-guided aspiration did not help should be considered for surgical intervention. Our patient had been admitted to medicine department for congestive heart failure because of



Figure 3: C.T. Pulmonary angiography to delineate pulmonary vasculature

tamponade. Then he was referred to our cardio-vascular surgery department where emergency surgery was done for tamponade. Following symptomatic relief, a CT scan of the chest and total abdomen was done.

Pericardial window can be performed using several techniques including subxiphoid approach, video assisted thoracic surgery, and thoracotomy. It has been reported that there is no statistically significant difference between the results of a window procedure using subxiphoidal approach and a thoracotomy. The procedure may even be performed using VATS technique combined with a harmonic scalpel. We preferred thoracotomy over the subxifoidal route at our center.

Pericardial tamponade implicates advanced disease. The median survival of these patients is reported to be between 7 days and 12 months following initial diagnosis.^{2,4}

CONCLUSION

We believe that it is necessary to consider a possible diagnosis of pericardial tamponade of various causes, even advanced malignancies, in otherwise healthy patients admitted to hospitals with the aforementioned symptoms. Echocardiographic examination and aspiration under its guidance should be preferred as initial therapy. Pleuro-pericardial window procedure should be considered in patients with recurrence as a final step.

REFERENCES

1. Gilbert I, Henning RJ. Adenocarcinoma of the lung presenting with pericardial tamponade: report of a case and review of the literature. *Heart and Lung* 1985;14(1):83-87.
2. Balghith M, Taylor DA, Jugdutt BI. Cardiac tamponade as the first clinical manifestation of metastatic adenocarcinoma of the lung. *Can J Cardiol* 2000; 16(7): 925-927.
3. Muir KW, Rodger JC. Cardiac tamponade as the initial presentation of malignancy: is it as rare as previously supposed? *Postgrad Med J* 1994; 70(828):703-707.
4. Pinto MM. Malignant pericardial effusion and cardiac tamponade. *ActaCytol* 1985;30(6):657-661.

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