

Case Report

Pericardial tamponade masking associated pulmonary thromboembolism in a case of adeno carcinoma of lung

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ABSTRACT

This case report describes a patient admitted with shortness of breath of 15 days duration and found to have cardiac tamponade, which masked concomitant pulmonary embolism that was diagnosed by echocardiographic signs of dilate RA/RV with PAH only after successful pericardiocentesis. Subsequently patient was found to have widely metastatic adenocarcinoma of lungs. This case emphasizes the diagnostic challenge when cardiac tamponade is associated with pulmonary thromboembolism and requires high index of clinical suspicion in patients with underlying malignancy.

Keywords: Pericardial tamponade, Pulmonary thromboembolism, Adenocarcinoma lung

INTRODUCTION

The pericardium is involved in 5 to 15% of patients with malignant neoplasms at autopsy.¹ Pericardial involvement may be in the form of either dry or effusive pericarditis. Usually pericardial effusions due to malignancy are large and can rapidly progress to cardiac tamponade.³⁻⁵ Carcinoma lung is the most common malignancy associated with pericardial effusion others being breast cancer intestinal cancers, leukemia, and lymphomas. Sometimes pericardial effusion may be the initial presentation well before the diagnosis of primary cancer.⁶

The diagnosis of pulmonary thromboembolism may only be suspected when there is persistent symptoms of cardiorespiratory distress with new echocardiographic findings of dilated RA & RV with PAH (RA,RV being initially compressed by cardiac tamponade) following a successful pericardiocentesis.

CASE REPORT

A 40 year old female presented with shortness of breath of 10 days duration, which progressed to orthopnea. She also experienced palpitations since 3 days which are regular and associated with vague chest discomfort. She is completely asymptomatic prior to this episode.

General examination revealed mild pallor, no signs of icterus, cyanosis, clubbing, pedal edema, lymphadenopathy or thyroid swelling. She had jugular venous distension of 7 cm above sternal angle. Pulse rate was 110/min, regular, low volume with pulsus paradoxus. Blood pressure was 90/60 mm of Hg.

Cardiovascular examination showed diminished intensity of heart sounds without murmurs, rub or gallop. She had bilateral diminished intensity of breath sounds (Rt > Lt). Per abdomen examination revealed no organomegaly. ECG showed sinus tachycardia. Echocardiographic

examination showed large pericardial effusion with signs of tamponade (Figure 1). Chest X ray showed enlarged cardiac silhouette with bilateral blunting of cardiophrenic angles.



Figure 1: 2 D echo PLAX view showing large pericardial effusion with signs of tamponade.

Emergency pericardiocentesis was done and 600 ml of hemorrhagic fluid aspirated and sent for analysis, simultaneously pleural fluid was also aspirated and analysed. After removal of pericardial fluid she continued to be tachypnoeic with persistent tachycardia. Repeat echocardiogram showed minimal pericardial fluid, but the right ventricle and right atrium were found to be ballooned out with elevated pulmonary artery systolic pressures (Figure 2). These echo-Doppler findings even after successful relief of tamponade, along with persistent tachycardia and tachypnoea, raised the suspicion of associated pulmonary thromboembolism.



Figure 2: 2 D echo PLAX view in post pericardiocentesis showing dilated right ventricle with elevated pulmonary artery systolic pressure, only minimal pericardial effusion.

Hence CT pulmonary angiography was done, which showed thrombus in right pulmonary artery extending upto segmental arteries (Figure 3). Venous Doppler of both lower limbs was negative for deep vein thrombosis. Ultrasound abdomen was normal. She was started on anticoagulation.

In view of simultaneous hemorrhagic pericardial effusion and pulmonary thromboembolism malignancy was the first to be suspected and was evaluated in that perspective. Her ESR was high with total counts within normal limits. Her CECT chest and abdomen showed soft tissue focus (13 x 17 mm) in apicoposterior segment of left lung upper lobe, few lymph nodes in mediastinum, bulky left Adrenal gland and sclerotic bony metastasis (Figure 4). Other systemic diseases and tuberculosis were excluded.



Figure 3: CT pulmonary angio showing thrombus in right pulmonary artery extending upto segmental arteries.

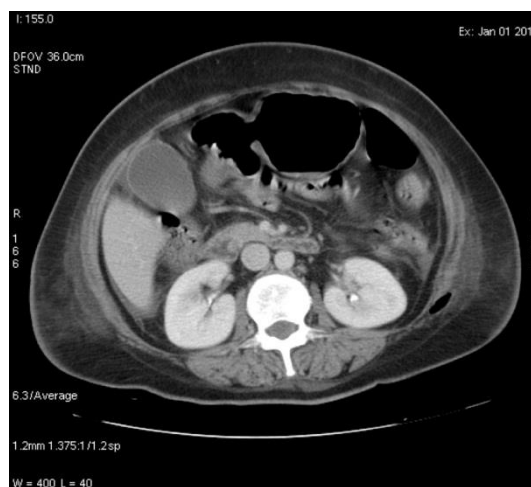


Figure 4: CECT abdomen showing bulky left adrenal gland with sclerotic bony metastasis.

Pericardial fluid analysis showed few morules of cells with prominent large nuclei, reactive mesothelial cells along with lymphocytes. Pleural fluid analysis showed smears with rich cell yield against a haemorrhagic background. Cells are mostly neutrophils, lymphocytes along with clusters of reactive mesothelial cells, few morules of cells seen with large nuclei suggestive of adenocarcinomatous cells. CT guided biopsy of lung mass revealed primary moderately differentiated adenocarcinoma of lung.

Tumor markers were sent, and elevated levels of cancer antigen (CA) 125, CEA were found and she was started on chemotherapy by oncologist. She completed 5 cycles of chemotherapy and is under follow up presently.

DISCUSSION

Hemorrhagic pericardial effusion, and pulmonary. Thromboembolism due to hypercoagulable states are relatively common complications of malignancy. Usually, these present in isolation and are easy to recognize. Their simultaneous presentation, as in our case, however, is a diagnostic challenge as both can have tachycardia, tachypnoea and hypotension (cardiorespiratory distress). Management may also be difficult because of relative contraindication to anticoagulation in the presence of pericardial lesions. This case emphasizes the coexistence of pulmonary thromboembolism, which should be there in the back of our mind while dealing with patients presenting in cardiac tamponade with underlying malignancy when the symptoms are not relieved by pericardiocentesis.

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REFERENCES

1. Mukai K, Shinkai T, Tominaga K, Shimosato Y. The incidence of secondary tumors of heart and pericardium: A ten-year study. *Jpn J Clin Oncol* 1988;18:195.
2. Spodick DH. Neoplastic pericardial diseases. In *The Pericardium, A Comprehensive Textbook*, New York: Marcel Dekker. 1997;301.
3. Spodick DH. Diseases of the pericardium. In *Cardiology, An Illustrated Text*. Parmley W, Chatterjee K, Eds. Philadelphia: J.B. Lippincott, 1991;10.63.
4. Spodick DH. Neoplastic pericardial diseases. In *The Pericardium, A Comprehensive Textbook*, New York: Marcel Dekker. 1997;302.
5. Laham RJ, Cohen DJ, Kuntz RE, Baim DS, Lorell BH, et al. Pericardial effusions in patients with cancer: Outcome with contemporary management strategies. *Heart*. 1996;75:67-71.
6. Monreal M, Casals A, Boix J, Olazabal A, Montserrat E, Ribas Mundo M. Occult cancer in patients with acute pulmonary embolism: A prospective study. *Chest*. 1993;103:816-9.

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