

# Acute Dyspnea in Bronchogenic Carcinoma: A Rare Cause

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## ABSTRACT

**Introduction:** Among carcinomas, Bronchogenic carcinoma is a leading cause of cancer related deaths in the world. Malignancies like bronchogenic carcinoma, breast carcinoma, lymphoma etc can cause pericardial effusion in advanced stages. Pericardial effusion is rarely seen as an initial presenting symptom.

**Case report:** Forty five year old female admitted with dyspnea and generalised weakness. On clinical assessment patient had pitting pedal oedema, hypotension, tachycardia and a solitary non tender left supraclavicular lymph node. X-Ray chest s/o right upper zone consolidation with right sided pleural effusion with cardiomegaly. On USG bilateral pleural effusion with pericardial effusion was demonstrated. 2D Echo s/o massive pericardial effusion and cardiac tamponade. Immediate pericardiocentesis was done and pericardial fluid drained over next 2 days. On assessment of pericardial fluid, malignant cells were seen. CECT Chest s/o hyperdense mass lesion in right upper lobe with right sided pleural effusion with cardiomegaly. FNAC done from supraclavicular lymph node s/o metastatic adenocarcinoma. Patient was managed with diuretics, steroids and vasopressors followed by chemotherapy.

**Conclusion:** Patient with pericardial tamponade should always be treated by pericardiocentesis and evaluated for possible etiology. It is rare for bronchogenic carcinoma to present primarily with cardiac tamponade.

**Keywords:** Bronchogenic Carcinoma, Pericardial Effusion, Cardiac Tamponade.

## INTRODUCTION

Bronchogenic carcinoma is a leading cause of cancer related deaths in the world. Its incidence is highly correlated with cigarette smoking, and about 10% of long term smokers will eventually be diagnosed with lung cancer. Malignancies like bronchogenic carcinoma, breast carcinoma, lymphoma, leukemia etc can cause pericardial effusion in advanced stages.<sup>1-4</sup> In India the most common cause of pericardial effusion is tuberculosis. Bronchogenic carcinoma usually presents as pulmonary symptoms but it sometimes can present differently. Pericardial effusion is rarely seen as an initial presenting symptom.<sup>2,4</sup> Malignant neoplastic pericarditis can result into cardiac tamponade which results in acute cardiac failure. Pericardial effusion can be life threatening and requires immediate care. In bronchogenic carcinoma there can be direct extension of tumour to the pericardium without any intrapericardial effusion which can cause constriction of heart.<sup>5-7</sup> This report concerns a case where pericardial effusion leading to cardiac tamponade was a initial presenting symptom which is very rare.

## CASE REPORT

A Forty five year old female was admitted with complaints of shortness of breath and generalised weakness since 10 days. Shortness of breath was rapidly progressive and associated with significant orthopnea. The patient denied any significant co-

morbidities in the past. Patient is a chronic bidi smoker since 20 years. On clinical assessment patient had pitting pedal edema, hypotension (80/60mmHg), tachycardia (146/min) and a solitary non-tender left supraclavicular lymph node. ECG done s/o low voltage QRS complexes and sinus tachycardia. X-ray chest done s/o right upper zone consolidation with right sided pleural effusion with cardiomegaly (figure 1).

On USG bilateral pleural effusion with pericardial effusion was demonstrated. 2D Echo done s/o massive pericardial effusion, early diastolic collapse of right atrium s/o cardiac tamponade. Immediate pericardiocentesis was done and pigtail catheter was positioned posteriorly in the pericardial space, 300 ml of pericardial fluid was drained immediately and another 300 ml was drained over next 2 days (figure 2). On assessment of pericardial fluid, malignant cells were seen. CECT CHEST s/o hyperdense mass lesion in right upper lobe with right sided pleural effusion with cardiomegaly (figure 3). FNAC done from supraclavicular lymph node s/o Metastatic Adenocarcinoma. Patient was managed with diuretics, steroids and vasopressors followed by chemotherapy (figure 4).

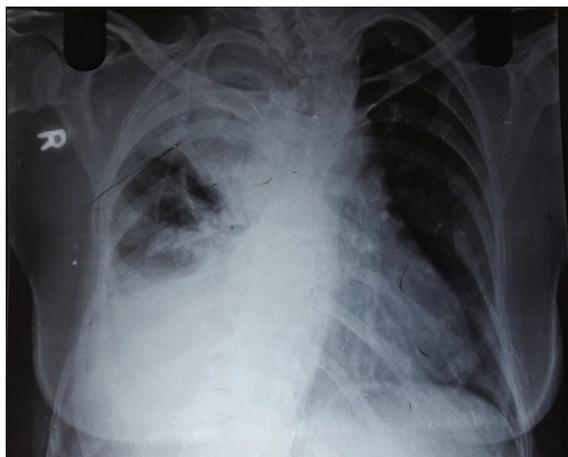
## DISCUSSION

NSCLC accounts for 85% of total detected cases. It is divided into 3 major sub types: most common being Adenocarcinoma (38.5%), Squamous cell carcinoma (20%) and Large cell carcinoma (2.9%). 30% to 40% of cases of NSCLC and 60% of SCLC usually present in stage 4. Response rates to chemotherapy are higher in patients with localised disease than in disseminated disease. In carcinomas like bronchogenic carcinoma, leukemia, lymphoma and breast carcinoma pericardial effusion is a well known complication in advanced stages. It is seen in nearly 40% of all cases. The range of metastasis pericardium due to malignancies differs from 1.5% to 21% in various extent in autopsy series.<sup>8,3</sup> There is invasion of adjacent lymph nodes which leads to obstruction of lymphatic drainage which further leads to accumulation of pericardial fluid.<sup>9</sup> Pericardial tamponade as an initial presentation is very rare.<sup>1,3,4</sup> It is always necessary to diagnose the cause of cardiac tamponade. Echocardiography and pericardiocentesis (under guidance) should be initially considered as a approach towards diagnosis.

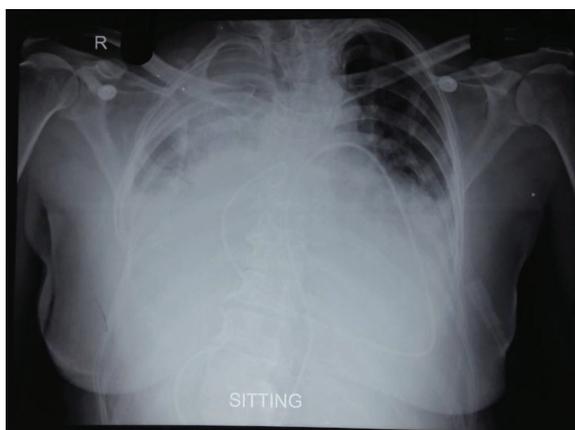
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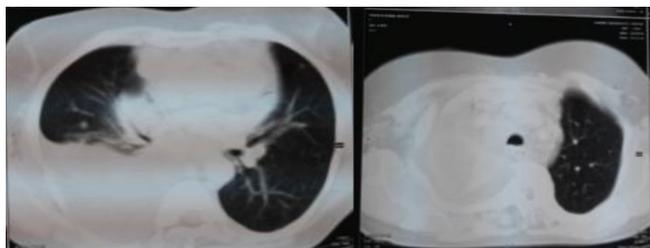
**How to cite this article:** Parvinder Singh, Sameer Singhal, Dinesh Mehta, Sachin Bansal. Acute dyspnea in bronchogenic carcinoma: a rare cause. International Journal of Contemporary Medical Research 2017;4(1):176-177.



**Figure-1:** X-ray chest done s/o right upper zone consolidation with right sided pleural effusion with cardiomegaly



**Figure-2:** Xray chest showing pig tail catheter (for draining pericardial effusion) in situ.



**Figure-3:** CECT CHEST s/o hyperdense mass lesion in right upper lobe with right sided pleural effusion with cardiomegaly.



**Figure-4:** Xray chest (on follow up) after 1st cycle of chemotherapy.

## CONCLUSION

The clinical presentation of pericardial effusion depends on the underlying etiology and the rapidity with which fluid accumulates within the pericardial space. Patient with pericardial tamponade should always be treated by pericardiocentesis and evaluated for possible etiology. Pericardiocentesis in such cases is life saving. Malignant effusion and pericardial tamponade indicates advanced disease. It is rare for bronchogenic carcinoma to present primarily with cardiac tamponade. There is growing evidence that chemotherapy might prolong survival in these patients.

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**Source of Support:** Nil; **Conflict of Interest:** None

**Submitted:** 22-12-2016; **Published online:** 04-02-2017