

Ovarian Carcinoma Presenting as Meigs' Syndrome- A Rare Case Report

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ABSTRACT

Presence of fluid and air within pleural space is known as hydropneumothorax. A large proportion of patients present with shortness of breath, dry cough and pricking type of pleuritic chest pain as a result of pleural involvement. However, fever and constitutional symptoms like loss of appetite and loss of weight is most likely associated with tuberculosis. Meigs' syndrome is a triad of ascites, hydrothorax and benign ovarian tumours (ovarian fibromas and fibrothecomas). Pseudo-Meigs' syndrome shows accumulation of ascites, pleural effusion and associated with a pelvic or abdominal tumours. Here, is a case report of a 62-year-old postmenopausal female, who presented with right pleuritic chest pain and breathlessness, since one week. Chest radiograph showed right-sided hydropneumothorax which required an intercostal drainage tube insertion. Upon further evaluation, the primary unknown cancer was found to be of ovarian origin.

Keywords: Benign ovarian tumours, Hydropneumothorax, Pseudo-Meigs' syndrome

CASE REPORT

A 62-year-old, postmenopausal female came to the hospital with chief complaints of right-sided pleuritic chest pain, shortness of breath mMRC (Modified Medical Research Council) (grade III), since one week. Patient had history of significant loss of weight and loss of appetite for the past three months. There was no history of fever, cough, wheezing and haemoptysis. There was no history of similar illness, no co-morbidities and no significant family history.

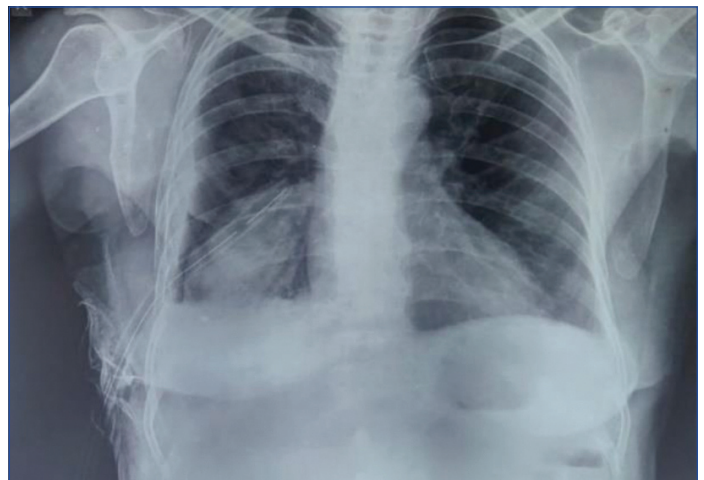
The patient was conscious, oriented, afebrile and dyspnoeic. Patient had no evidence of pallor, icterus, clubbing, pedal oedema or cyanosis. Vitals showed SpO₂- 94% in room air, pulse rate- 116/min, respiratory rate- 24 cycles/min, Blood Pressure (BP)- 100/80 mm of Hg, Basal Metabolic Index (BMI)- 18 kg/m². Examination of respiratory system showed normal vesicular breath sounds with decreased intensity in right infra-scapular and infra-axillary areas. Examination of all other systems were normal. Routine blood parameters were normal. Chest radiograph showed air-fluid level, most likely of hydropneumothorax. Computed Tomography (CT) scan of chest showed right-sided moderate hydropneumothorax with collapse of right lower lobe [Table/Fig-1].



[Table/Fig-1]: Right-sided moderate hydropneumothorax with collapse of right lower lobe.

An intercostal drainage tube was inserted in right 5th intercostal space in anterior axillary line and pleural fluid was collected and sent for analysis showed an exudative type of pleural effusion and cytology confirmed presence of malignant cells. A chest radiograph,

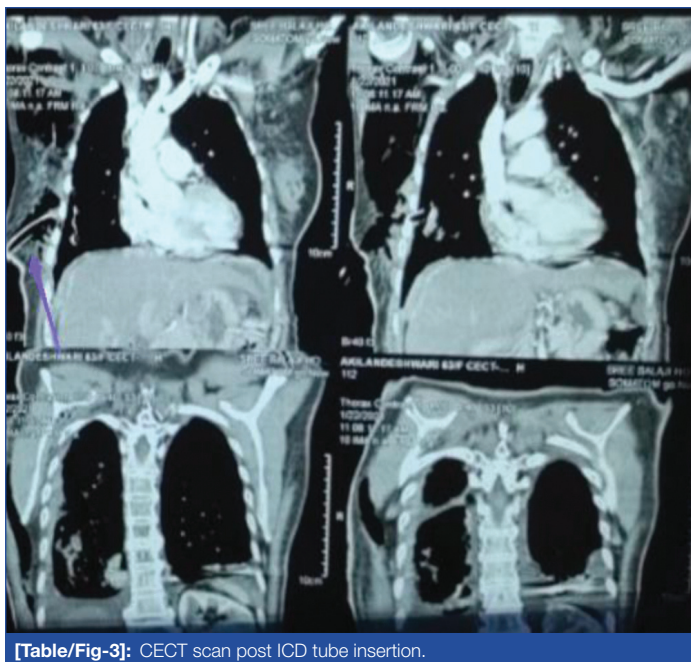
Post chest tube insertion, showed adequate lung expansion and indwelling pleural catheter in right pleural space [Table/Fig-2a,b]. Contrast-Enhanced Computed Tomography (CECT) scan showed right lung expansion and mild pleural effusion on the right-side [Table/Fig-3]. On suspicion of a carcinoma of unknown origin, a whole-body Positron Emission Tomography (PET) scan was



[Table/Fig-2a]: Intercostal drainage tube in right hemithorax- Posterior-Anterior (PA) view.



[Table/Fig-2b]: Intercostal drainage tube seen in the right hemithorax- Lateral view.



[Table/Fig-3]: CECT scan post ICD tube insertion.

performed which revealed an ovarian malignancy as the primary with metastasis to the pleura. Chemical pleurodesis using a sclerosing agent was performed and patient was referred to a Cancer Institute for further evaluation and management.

DISCUSSION

Malignant Pleural Effusion (MPE) is a type of exudative pleural effusion, characterised by malignant cells in pleural cavity [1]. In patients with metastatic carcinoma, pleural effusion is seen in 15% of them [2,3]. MPE is most commonly associated with neoplasm of the lung. Other malignancies associated with MPE include breast cancer, ovary cancer, and lymphoma [4]. Pleural cavity is the most likely extra-abdominal site for metastatic ovarian carcinoma [5]. Breathlessness, dry cough and pleuritic type of chest pain are most likely in MPE [2]. Malignancies presenting with pleural effusion as the initial symptom have a good prognosis [6]. The MPE is universally a bad prognostic sign, regardless of the time of formation of the pleural effusion [6]. Out of all the malignancy cases in females, 2.5% are cases of ovarian carcinoma and have a poor prognosis [7].

Pleural effusion associated with positive cytology is considered as stage FIGO IVA (International Federation of Gynaecology and Obstetrics) [8]. The five year overall survival for patients with localised disease is 92%, whereas patients with a FIGO stage IV disease have an overall survival of less than 20% [8]. The most common peritoneal manifestation of epithelial ovarian carcinoma is MPE [8]. Spread of neoplastic cells from ovarian carcinoma to the interpleural space occurs along the diaphragmatic, pleuroperitoneal or haematogenous route [9]. A 70% of all ovarian carcinoma is diagnosed at a late stage (FIGO III or IV) [10]. In 15% of newly diagnosed patients, MPE is the first clinical sign of disease and therefore, clinicians must pay attention to typical symptoms of MPE in all ovarian carcinoma patients [9]. MPE in ovarian carcinoma presents in 77% of cases ipsilaterally and in 23% bilaterally [9]. Common for ovarian carcinoma in comparison with other cancers are elevated values of CA-125 and CA-15-3 (Cancer Antigen) markers [9].

Meigs' syndrome is characterised by the presence of ascites, pleural effusion along with a benign ovarian tumour and excision of the mass helps in resolution of symptoms [11]. Benign ovarian cysts and metastatic tumours with ovarian spread associated with hydrothorax and ascites is called Pseudo-Meigs' syndrome [12]. In females, ovarian malignancy can be a diagnosis when associated

with increased CA-125 levels and ascites. Ultrasonography of abdomen and pelvis reveals the presence of a well circumscribed tumour along with fluid in pleural cavity and peritoneal cavity. Histological confirmation along with resolution of symptoms after surgical intervention confirms the diagnosis.

Hysterectomy with salpingo-oophorectomy is the procedure of choice in such cases [13]. The index patient had ovarian carcinoma which manifested as unilateral hydropneumothorax and significant weight loss without ascites. The present case places an emphasis on the early recognition of Meigs' syndrome, even with a rare presentation.

During dissemination of tumour foci from the ovary, right-sided MPE is more likely [14]. Thus, the present case shows a unique presentation of ovarian cancer with hydropneumothorax involving the right hemithorax. The tumour origin in the present case was detected by PET-CT scan [15]. In patients with ascites, a detectable pelvic mass and pleural effusion, rule out Meigs' syndrome, which mostly cause benign gynaecological tumours. Rarely, ovarian metastases can occur from primaries of gastric, colorectal or breast (Krukenberg tumours) and can produce Pseudo-Meigs' syndrome, in which the symptoms resolve after surgical resection of the ovarian masses [16].

The malignant cells from the ovary may have metastasised to pleura directly through the blood stream, leading to pleural effusion without ascites, making our diagnosis difficult. Thoracoscopic visualisation of pleura might have helped in early detection. Therefore, in cases of carcinoma of unknown origin with MPE, thoracoscopic evaluation should be done if patients are willing and if the facility is available.

CONCLUSION(S)

The present case emphasises the need for suspicion of ovarian malignancy in an unexplained exudative pleural effusion associated with pneumothorax with no associated ascites. Thus, prompt diagnosis in MPE to prevent further complications and metastasis. Investigations like PET-CT should be done at initial stages to confirm primary malignancy.

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