INTRODUCTION
Malignant pericardial effusion is well recognized in patients with known malignancy, however, pericardial effusion and cardiac tamponade as the presenting features of an undiagnosed malignancy is rare and very few case reports are present in the literature. We are presenting an unusual case of metastatic adenocarcinoma presenting with progressive loss of unilateral vision and dyspnea.

CASE REPORT
This 52 years old male patient, who was a heavy smoker presented to a private hospital 2 - 3 months before with progressive decrease in vision of right eye which was treated as retinal detachment. Shortly after that he was admitted at the same hospital with dyspnea and was found to have a large pericardial effusion with associated cardiac tamponade. Haemorrhagic pericardial effusion was drained; the cytology was negative for malignant cells.

He then presented to our center after one and a half month from the initial pericardiocentesis with progressively worsening dyspnoea and weight loss of approximately 3 kgs over 2 months. On examination, he looked unwell and in distress, with a respiratory rate of 24 breaths/minute, regular pulse rate of 115 beats/minute, blood pressure of 90/60 mmHg and a pulse paradox of 20 mmHg. His Jugular venous pulse was elevated up to 6 cm above the sternal angle. The chest examination revealed gynecomastia with bilateral hard nodules in both breasts and bilateral crepitations involving the lower half of the chest. CXR showed increased cardiac silhouette, hilar congestion and pulmonary infiltration. The echo showed a large posteriorly accumulated pericardial effusion with strands (Figure 1 c), early diastolic RV collapse, late diastolic RA collapse (Figure 1 d) with significant respiratory variation across mitral and tricuspid valves. He had emergent pericardiotomy considering the posterior location and presence of strands with complete fluid removal (Figure 1 f and g).

Ophthalmic examination of the right eye revealed a mushroom shaped choroidal mass and retinal detachment suggestive of malignant melanoma or metastatic carcinoma. Fluid analysis from pleura and breast biopsy revealed evidence of metastatic adenocarcinoma. Immunohistochemistry finding were suggestive of possible lung or gastrointestinal tract as a primary source. Imaging studies showed widely spread malignancy involving abdominal viscera, mediastinum, lung, pericardium, choroid and brain. He showed features of pericardial constriction on echocardiography after fluid drainage due to pericardial infiltration. He expired before he could have received palliative chemotherapy.

ABSTRACT
Cardiac tamponade is an unusual earliest presentation of undiagnosed metastatic adenocarcinoma of unknown origin. Malignant pericardial effusion requiring drainage is also a poor prognostic marker with reported median survival of 6.1 months. A choroidal mass may be the presenting sign of systemic malignancy; the diagnosis of metastatic ocular tumour is important as it portends poor prognosis. We are reporting an unusual presentation of an undiagnosed metastatic adenocarcinoma presenting in an elderly male primarily with loss of vision due to choroidal mass causing retinal detachment and repeated episodes of dyspnea due to recurrent pericardial effusion causing cardiac tamponade. Fluid analysis from pleura and breast biopsy revealed evidence of metastatic adenocarcinoma. Immunohistochemistry finding were suggestive of possible lung or gastrointestinal tract as a primary source. Imaging studies showed widely spread malignancy involving abdominal viscera, mediastinum, lung, pericardium, choroid and brain. He showed features of pericardial constriction on echocardiography after fluid drainage due to pericardial infiltration. He expired before he could have received palliative chemotherapy.

Key Words: Metastatic adenocarcinoma. Choroidal mass. Cardiac tamponade.
Postpericardio-echo showing a large posteriorly accumulated pericardial effusion with strands. (d) Early diastolic RV collapse. (f,g) Postpericardiotomy images with complete fluid removal.

pulmonary veins and left atrium. Osteolytic lesions in T10 and L1 vertebra, marked pulmonary interstitial thickening with bilateral multiple ground glass opacities and multiple lung nodules suggestive of extensive metastasis (Figure 1 a and e) were also evident on CT chest. CT scan of abdomen also showed extensive metastatic lesions involving liver, adrenals, left kidney, right erector spinae muscle and vertebral bodies (Figure 1 b). Ultrasound of breasts showed small nodule in left breast and biopsy also revealed poorly differentiated high grade adenocarcinoma. Further immunohistochemistry were negative for ER, PR, PSA, PSAP, CK5/6 and HEERSNEU. He was considered for palliative chemotherapy but the condition deteriorated rapidly, requiring intubation and mechanical ventilation and final demise occurred within 2 weeks of diagnosis.

DISCUSSION

Metastatic malignancies account for more than half of all cardiac tamponade case with bronchogenic carcinoma being the leading neoplasm, followed by breast and renal carcinomas, lymphomas and leukemia. Gynaecological malignancy has also been reported to present with cardiac tamponade. Cardiac tamponade has been reported as the first clinical manifestation of metastatic adenocarcinoma of the lung. Metastases to the pericardium and heart can occur via lymphatic or haematogenous dissemination, local extension or transvenous route. In this case, histopathology suggested poorly differentiated adenocarcinoma; presence of CEA in addition to CK7 is the possibility of GIT, cholangio-pancreatic or lung origin. Considering prolonged history of heavy smoking, lung should be considered as the likely primary.

Signs and symptoms in patient with adenocarcinoma metastatic to mesothelial cavities depend upon the rate and volume of accumulation, elasticity of pericardium, presence of pleural effusion and extent of metastasis. Hemodynamic instability due to cardiac tamponade is an infrequent presentation and is heralded by the presence of hypotension, tachycardia, elevated jugular pressure, muffled heart sound and presence of pulsus paradoxus. Diagnosis is confirmed with echocardiography demonstrating early diastolic RV collapse, late diastolic RA collapse with respiratory variation in mitral and tricuspid valve flow. This patient was in cardiac tamponade as evidenced by tachycardia, hypotension, pulsus paradoxus and elevated JVP. His imaging studies showed features consistent with pulmonary congestion, parenchymal infiltration and thickened infiltrated pericardium (10 - 12 mm). Echocardiography after pericardial fluid removal still showed respiratory variation across AV valves with jerky septal motion (septal bounce) suggestive of constrictive physiology. The CT scan also showed appearances suggestive of constrictive effusive pericarditis. Large effusion can be tolerated if rate of accumulation is slow and pericardial elasticity is high.

Neck veins remained engorged in this patient due to compression of SVC by metastatic lesions and proximal thrombosis. Malignancies, especially adenocarcinoma, have a propensity for causing a hypercoagulable state and subsequent thrombosis mostly in the venous circulation as part of Trousseau's syndrome. It is not uncommon for a choroidal metastasis to be the first symptomatic site of metastatic carcinoma due to its rich vascularity.

Malignant pericardial effusion sufficient to require drainage is a poor prognostic factor; with reported median survival of 6.1 months. Deterioration was rampant in this patient with survival of 3 weeks after the diagnosis and 2 - 3 months after the appearance of initial symptoms.

Cardiac tamponade and choroidal mass are unusual presentation of metastatic poorly differentiated adenocarcinoma and associated with median survival in months. This case also signifies the importance of tissue diagnosis in patients with choroidal mass to differentiate choroidal melanoma from metastatic carcinoma. Efforts should be made to ascertain the primary lesion with the help of imaging, histopathology and immunohistochemistry as it will reflect the outcome and influence the treatment.

REFERENCES


