

Cardiac exposure.  
transthoracic echo  
was performed which  
showed



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Cardiac metastasis of Ewing's sarcoma are exceedingly rare. A 35 year old male was admitted with complaints of non-productive cough and exertional dyspnea from 6 months with a history of left calf swelling which was proven to be Ewing's sarcoma. A transthoracic echocardiography demonstrated inhomogeneous mass located in the roof of the left atrium and on the anterior mitral leaflet. The mass was also seen invading the pericardial space with pericardial effusion. Due to accompanying pulmonary metastasis and possible poor outcome of the surgery, surgical resection was not considered. KEYWORDS: 2 d echocardiography, Sarcoma, Cardiac metastasis

TEXT A 35 year old male presented with complaints of swelling in the left calf since 5 years, non-productive cough, and breathlessness from 6 months.

Of note, there was no history of syncope, constitutional symptoms, or previous asbestos exposure. Transthoracic echo was performed which showed a 2.8 x 1.1 cm heterogeneous mass arising from the anterior mitral leaflet (Figure 1)(Video 1) and another mass in the left atrial roof measuring 2.7 x 1.9 cm which was a tumor invading into left atrium through the left upper pulmonary vein (Figure 2)(Video 1).

In addition, the tumor mass could be seen in the pericardial space with effusion that led to tamponade (Figure 3)(Video 2). A whole body PET-CT image was obtained which revealed a large FDG avid heterogeneous mass in the anterior mediastinum measuring 12.8 x 7.

4 cm. The mass was seen indenting on the left pulmonary artery with mediastinal shift to the right. A filling defect was seen in the inferior branch of

the left pulmonary vein showing peripheral uptake of FDG likely representing a pulmonary vein tumor. Few FDG avid nodes were seen in the left axilla and mediastinum. True cut biopsy of the left calf mass was performed.

The histopathologic examination revealed a tumor of mixed cellularity set within focally calcified fibrous stroma-positive margin. Morphologic and immunocytochemical features of the tumor were consistent with the diagnosis of synovial sarcoma. Metastatic cardiac disease is far more common than primary cardiac malignancy(1). First described in 1921, Ewing's sarcoma includes soft tissue primitive neuroectodermal tumor, classic Ewing's sarcoma of bone and extraosseous Ewing's tumor. Most cardiac sarcomas have the same histologic appearance similar to their soft tissue counterpart. Metastasis of Ewing's sarcoma to heart is rare and the incidence is unknown(2). Metastasis tend to be small and multiple.

However, it is possible to observe a single large tumor(3). Two Dechocardiography is the modality of initial investigation to detect cardiac metastasis(4). In our case tumours were large and multiple with pericardial involvement. Definitive diagnosis can be made by pathologic examination of a biopsy specimen which is possible only in some cases. Computed tomography and Magnetic resonance imaging aid in the diagnosis. The 5 year survival rate of localised disease is 60% and has improved with multimodality therapy, but the outcome of metastatic disease is poor with 5 year survival rate of only 25%.

Due to the accompanying pulmonary metastasis and possible poor outcome of the surgery, surgical resection was not considered and our patient received ifosfamide based chemotherapy with adriamycin.