

Primary pericardial mesothelioma - the master of disguise: a case report

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Introduction: Primary pericardial mesothelioma (PPM), an extremely rare and highly lethal tumor, accounts for 2-3% of primary cardiac and pericardial tumors with a prevalence rate of less than 0.002%¹.

Case report: We present the case of a 61-year-old man, a smoker without chronic diseases, who was hospitalized in April 2024 due to prolonged fever, loss of appetite and cough. The MSCT- pulmonary angiography verified subsegmental pulmonary embolism, circumferential pericardial effusion up to 26 mm wide and density 15 HU, mild marginal imbibition of the pericardium suggestive of pericarditis and small bilateral pleural effusions. An extensive investigation for etiological diagnosis was performed (rheumatology and infectiology investigations, esophagogastroduodenoscopy, bronchoscopy, MSCT of the thorax and abdomen, and tumor markers). Echocardiography showed a circumferential pericardial effusion up to 17 mm wide, without hemodynamic effect and with a good response to treatment with ibuprofen and colchicine.

In October 2024, the patient was re-admitted to the hospital due to shortness of breath with ascites and peripheral edema. Echocardiography revealed the progression of the circumferential pericardial effusion up to 21 mm, with the impression of deposits on the visceral pericardium up to 10 mm wide, restriction of longitudinal biventricular function and positive "annulus reversus" (Figures 1-3). A diagnostic pericardiocentesis was performed, during which 2960 ml of a hemorrhagic effusion was removed. The cytologic findings of the exudate showed a proliferation of mesothelial cells with atypia. A PET-CT scan confirmed a primary pericardial mesothelioma with dissemination to the mediastinal and right retroclavicular lymph nodes with suspected spread to the interlobar and costal pleura on the right side. The planned biopsy of the pericardium was not performed because the anesthesiologist considered the surgical risk to be very high. The patient was presented to the oncology team and the first line of systemic chemotherapy (cisplatin and pemetrexed) with immunotherapy (nivolumab and ipilimumab) was started and is still ongoing.

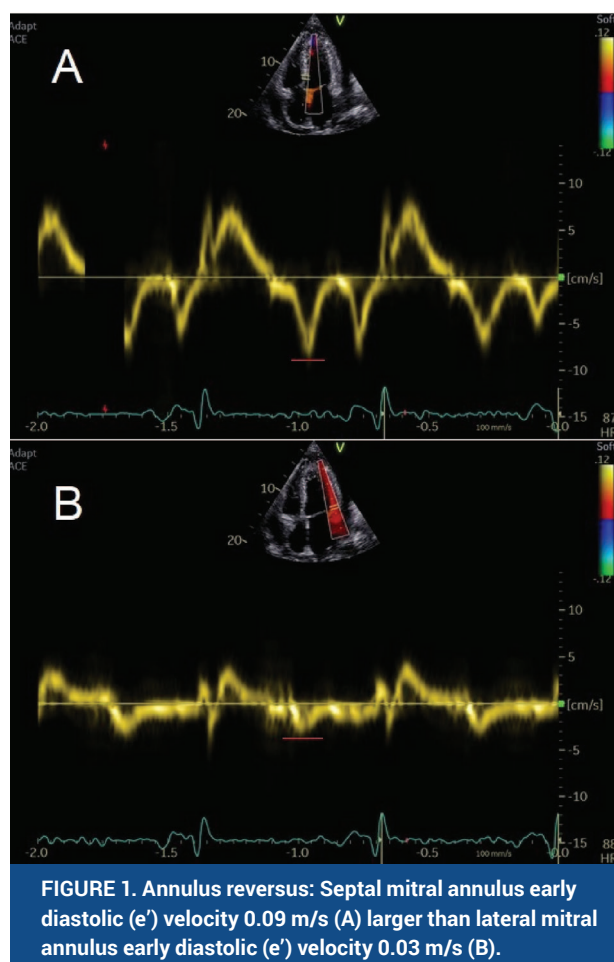


FIGURE 1. Annulus reversus: Septal mitral annulus early diastolic (e') velocity 0.09 m/s (A) larger than lateral mitral annulus early diastolic (e') velocity 0.03 m/s (B).

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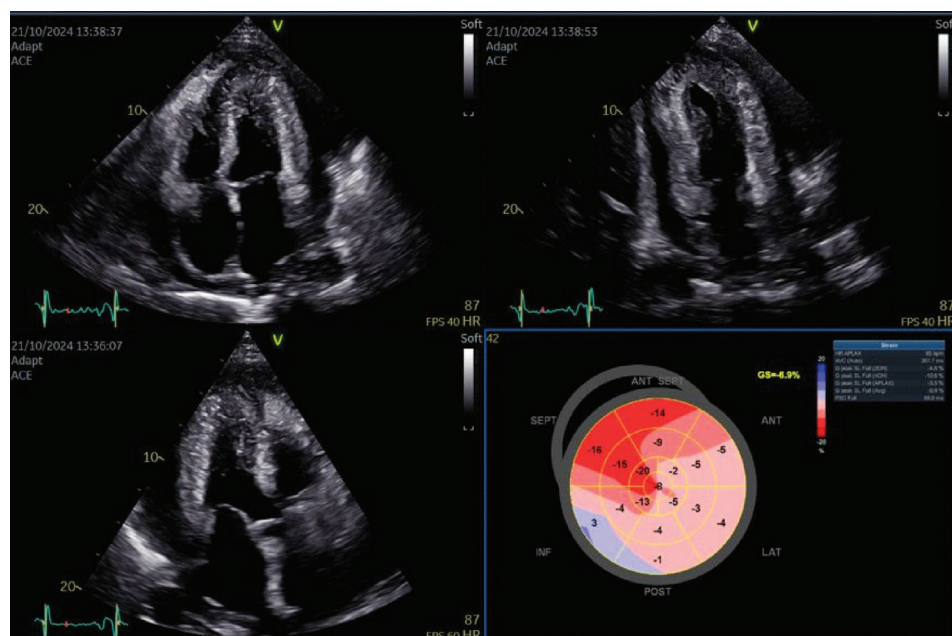


FIGURE 2. Transthoracic echocardiography: apical four chamber view (upper left image), apical two chamber view (upper right image), three chamber view (lower left image) and "bull's eye" of longitudinal systolic function of the left ventricle (lower right image).

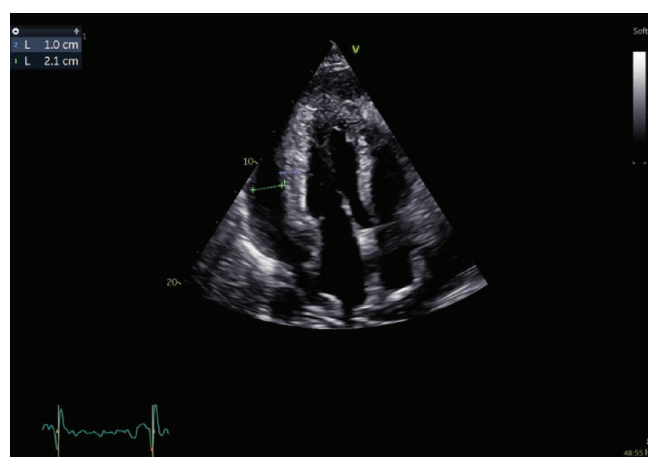


FIGURE 3. Transthoracic echocardiography; three chamber apical view showing thickening of visceral pericardium (10 mm) and pericardial effusion of 21 mm.

Conclusion: Due to the non-specific clinical presentation, the diagnosis of PPM is usually made late, and in most cases, it is only made at autopsy². This case emphasizes the importance of multimodality imaging and diagnostic pericardiocentesis for early diagnosis.

LITERATURE

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