Primary pericardial tumor presenting with cardiac tamponade: a case report

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Introduction: Primary pericardial tumors, benign or malignant, are rare.¹⁻³ Neoplastic pericarditis may cause various syndromes of cardiac compression or even frank cardiac tamponade.^{3,4}

Case report: 85-year-old female patient was admitted into the Cardiac Intensive Care Unit due to significant pericardial effusion on transthoracic echocardiography, with clinical signs of cardiac tamponade. Symptoms were described as dyspnea on exertion and in dormant state with lower-extremity oedema, elevated jugular pressure and holosystolic murmur. Patients past medical history of pericardial effusion that has been present since 2020. On hospital admission her blood pressure was 85/55 mmHg, heart rate 121/min, 26 breaths/min. Blood tests showed high levels of NT-pro-BNP at level of 8769 ng/mL. Due to a fact that the blood flow has been severely compromised through the right ventricle, urgent pericardial catheterization has been performed and afterwards in several acts of evacuation through 5 days period, approximately 6700 ml in total has been removed from the pericardial sack, resulting in reduced pressure of pericardial fluid, and thus preventing the heart tamponade (Figure 1). The cytological analysis of the pericardial fluid found no presence of malignant cells. Catheterization of coronary arteries has been performed and atypical conglomerate of blood vessels has been registered, the main irrigation of the latter has been supplied by the left anterior descending artery (Figure 2). The computer tomography (CT) scan of thorax revealed that there has been a presence of solid mass, 7 cm in diameter, solidly imbibated and localized in the cranial part of pericardial sack adjacent to left ventricle, in vicinity of the pulmonary trunk (Figure 3). Pulmonary embolism has been ruled out. Surgical removal was recommended but patient refused the procedure.



FIGURE 1. Pericardial effusion on CT scan.

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FIGURE 2. Circled area represents the irrigation vessels of the tumor supplied by the left anterior descending artery.



FIGURE 3. CT scan of the solid pericardial mass adjacent to the left ventricle.

Conclusion: Echocardiography, CT, MRI, aspiration of pericardial fluid, and cytological examination or open pericardial biopsy are crucial for diagnosing pericardial tumors. However, while echocardiography may provide more definitive information regarding cardiac compression by a neoplasm, CT and MRI can furnish useful information about the extension of the neoplasm into the adjacent structures.

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