

A case of constrictive pericarditis due to angiosarcoma mimicking acute ST elevation myocardial infarction 🎬

Constrictive pericarditis (CP) is a very rare condition, and its etiology is most commonly idiopathic. Cardiac angiosarcoma (AS) is an exceptional tumor of heart but is the most common primary cardiac malignant tumor in adults.

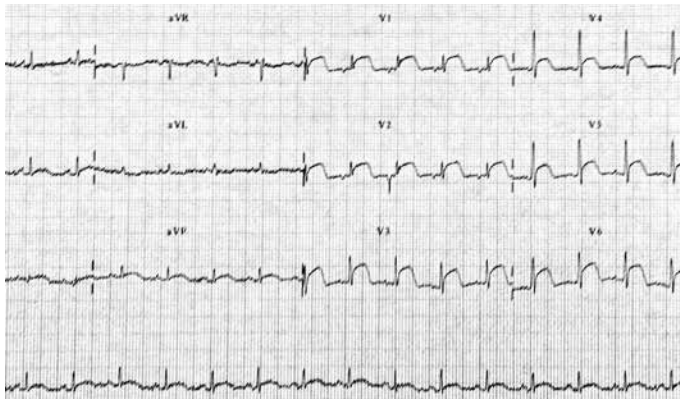


Figure 1. ECG showed acute anterior myocardial infarction

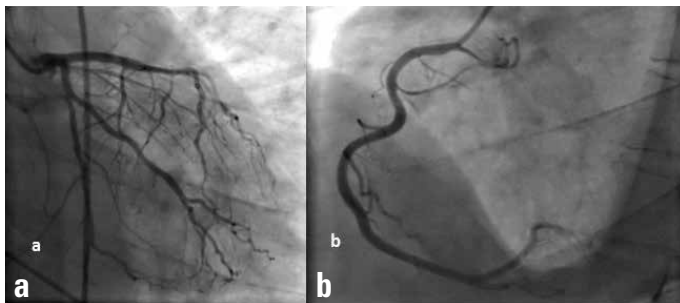


Figure 2. (a) RAO caudal view showed normal LAD and Cx. (b) LAO view showed normal RCA



Figure 3. Parasternal long axis view showed thickened pericardium

A 38-year-old male was referred to our clinic for substernal chest pain and dyspnea for the last 3 months. He had developed these symptoms after a severe upper respiratory tract infection. Physical examination revealed jugular venous distention, pericardial knock, hepatomegaly, and +1 pitting pretibial edema. His ECG showed newly developed ST segment elevation on V1-6 (Fig. 1) consistent with anterior myocardial infarction. Subsequent coronary angiography was normal (Fig. 2). Echocardiography showed thickened pericardium (Fig. 3), septal bounce (Video 1, 2), and $\geq 25\%$ increase in mitral E velocity during expiration (Fig. 4).

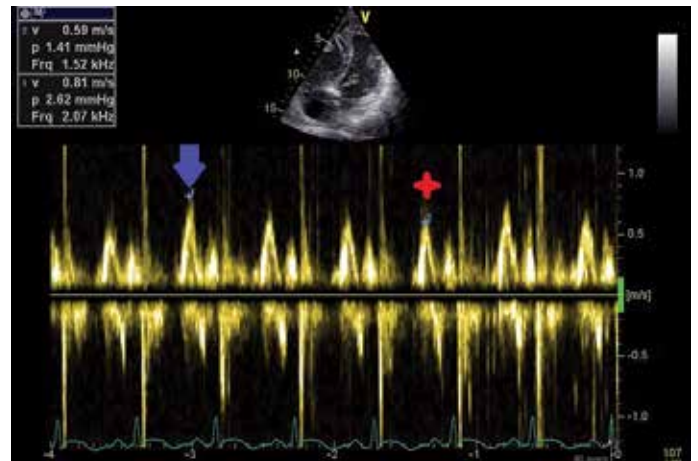


Figure 4. Doppler echocardiography revealed $\geq 25\%$ increase in mitral E velocity during expiration (arrow showed expiration, spike showed inspiration)

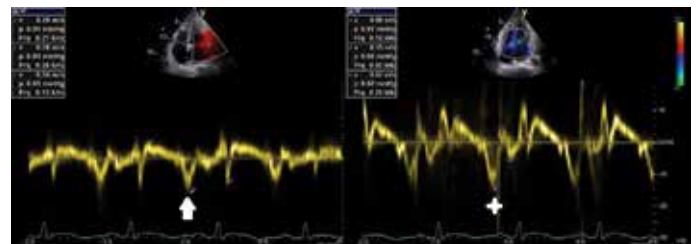


Figure 5. Tissue Doppler examination revealed anulus paradoxus (arrow showed E' velocity of the lateral mitral annulus, spike showed E' velocity of the septal mitral annulus)

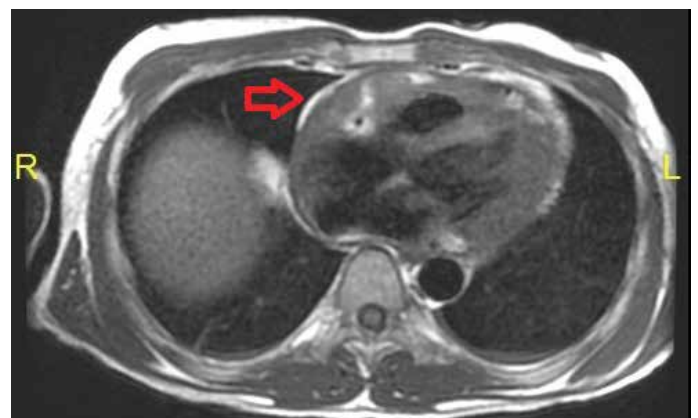


Figure 6. Cardiac MRI demonstrate thickened pericardium

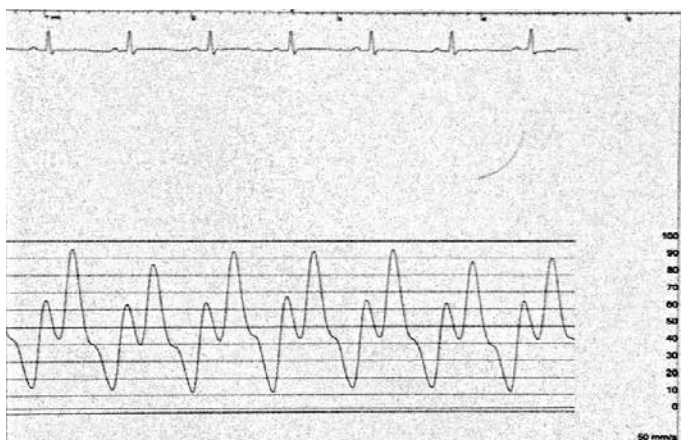


Figure 7. Preserved x descent and prominent y descent on right atrial pressure trace

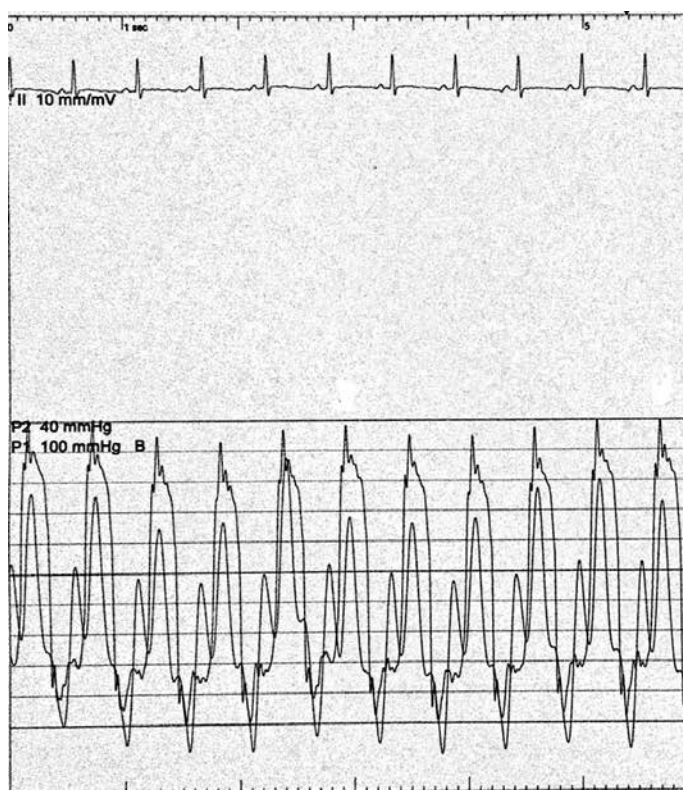


Figure 8. Exaggerated ventricular interaction on ventricular pressure trace

Tissue Doppler examination revealed the presence of anulus paradoxus (Fig. 5). Cardiac MRI demonstrated thickened pericardium and septal bounce (Fig. 6). Cardiac catheterization revealed a preserved x descent, a prominent y descent (Fig. 7), and an exaggerated ventricular interaction (Fig. 8).

Pericardiectomy was performed, and screening procedures for tuberculosis, viral-bacterial or fungal infections, vasculitis, and connective tissue disease revealed negative results. Pathological examination of pericardiectomy preperates showed spindle-shaped cells, which was consistent with angiosarcoma (Fig. 9). PET-CT showed increased metabolic activity on pericardial surface (Fig. 10).

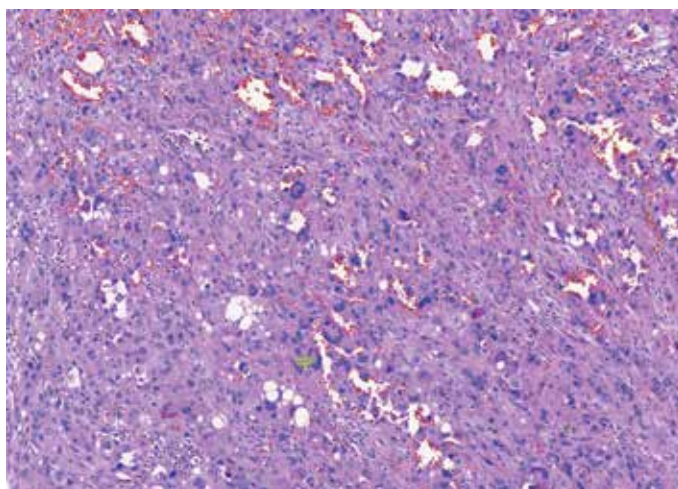


Figure 9. Pericardiectomy preperates showed spindle-shaped cells, which was consistent with angiosarcoma

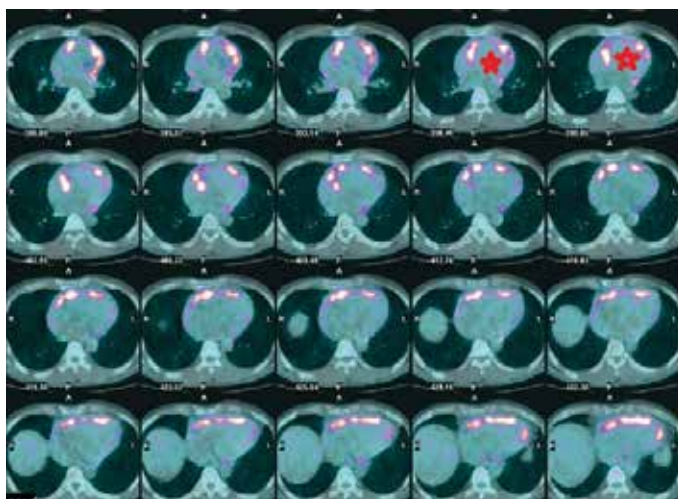


Figure 10. PET CT showed increased metabolic activity on pericardial surface

CP is a rare disease and is the end stage of an inflammatory process involving the pericardium. Primary cardiac AS is exceptional tumor. Pericardium involvement may be seen in cardiac AS; however, there is no literature regarding CP. To our knowledge, this case is the first presentation of CP due to cardiac AS.

Video 1. Parasternal short-axis view showed septal bounce.

Video 2. Apical four-chamber view showed septal bounce.

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