

Giant right atrial tumor in three-dimensional echocardiographic imaging

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A 73-year-old woman was admitted to the hospital due to weakness, shortness of breath, and ankle edema. Symptoms had manifested one month before. She had a history of hypertension.

Transthoracic echocardiography revealed a dilated right atrium (RA) with an extremely large tumor occupying the entire RA. The mass did not extend into the inferior vena cava and it appeared to infiltrate the right wall and visceral pericardium. Moreover, pericardial and bilateral pleural effusions were present (Figure 1A).

We performed transesophageal echocardiography (TEE) which showed that the diameter of the tumor was about 80 × 66 mm (Figure 1B; Supplementary material, Video S1). Using three-dimensional imaging, we could see in detail that the mass was immobile, inhomogeneous, and non-pedunculated (Figure 1C; Supplementary material, Video S2). The tricuspid valve was not involved but inflow to the right ventricle was significantly reduced (Figure 1D; Supplementary material, Video S3). The tumor infiltrated the superior vena cava (Figure 1E–F; Supplementary material, Video S4, S5). Color Doppler study documented vasculature of the tumor indicating it is malignant nature (Supplementary material, Video S6). Computed tomography ruled out the presence of a tumor in other organs.

Primary cardiac tumors are extremely rare [1]. Most of them are benign and only approximately 25% [2] are malignant. The general prog-

nosis is poor and the mean survival is about three months to one year after radical resection [3]. However, resection is often impossible. Unfortunately, the patient had a sudden cardiac arrest from pulseless electrical activity and died. The result of the histopathological exam was angiosarcoma.

Echocardiography is the method of choice in diagnosis cardiac masses and 3D TEE allows to add exact information about the location, mobility, attachment and wall infiltration of the tumor [4].

Supplementary material

Supplementary material is available at https://journals.viamedica.pl/kardiologia_polska.

Article information

Conflict of interest: None declared.

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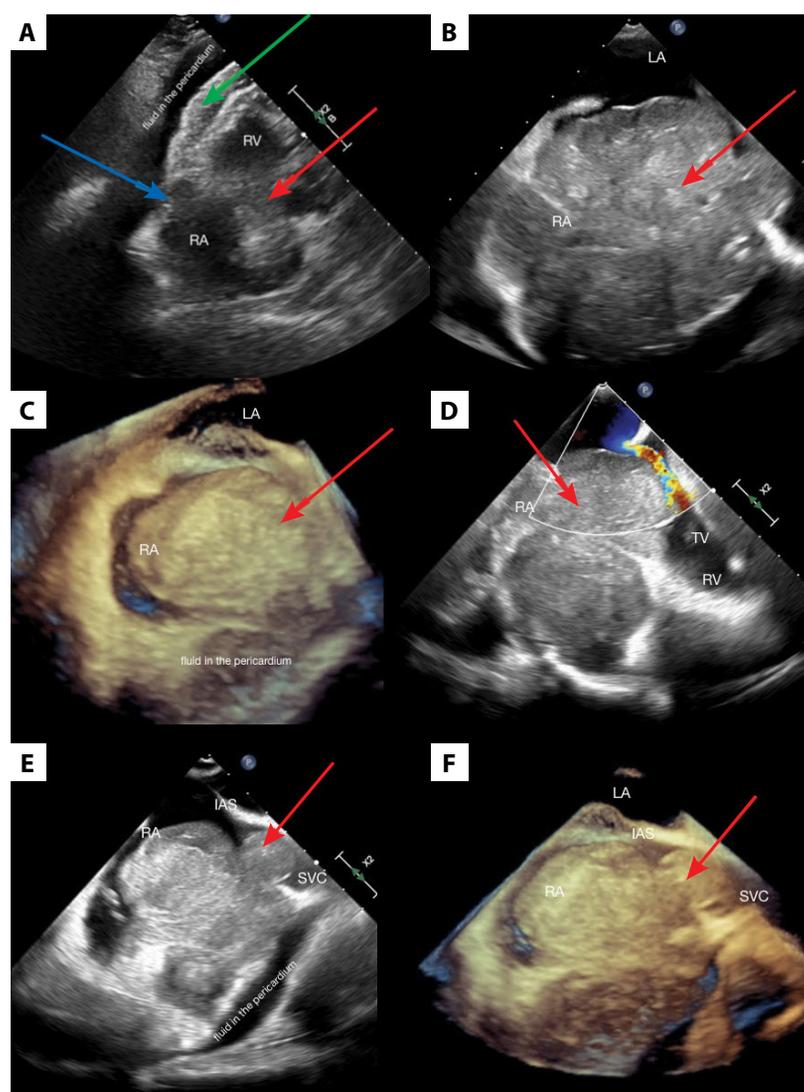


Figure 1. **A.** 2D transthoracic echocardiography, subcostal modified 4-chamber view. **B.** 2D TEE, modified bicaval view. **C.** 3D TEE, modified bicaval view. **D.** 2D TEE, modified 4-chamber view. **E.** 2D TEE, bicaval view. **F.** 3D TEE, bicaval view. Red arrow shows mass in the RA, green arrow shows tumor infiltration of the visceral pericardium, blue arrow shows tumor infiltration of the RA wall.

Abbreviations: IAS, interatrial septum; LA, left atrium; RA, right atrium; RV, right ventricle; SVC, superior vena cava; TEE, transesophageal echocardiography; TV, tricuspid valve

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