A valvular or atrial tumor? Echocardiography and successful treatment in a patient with an abnormal cardiac mass

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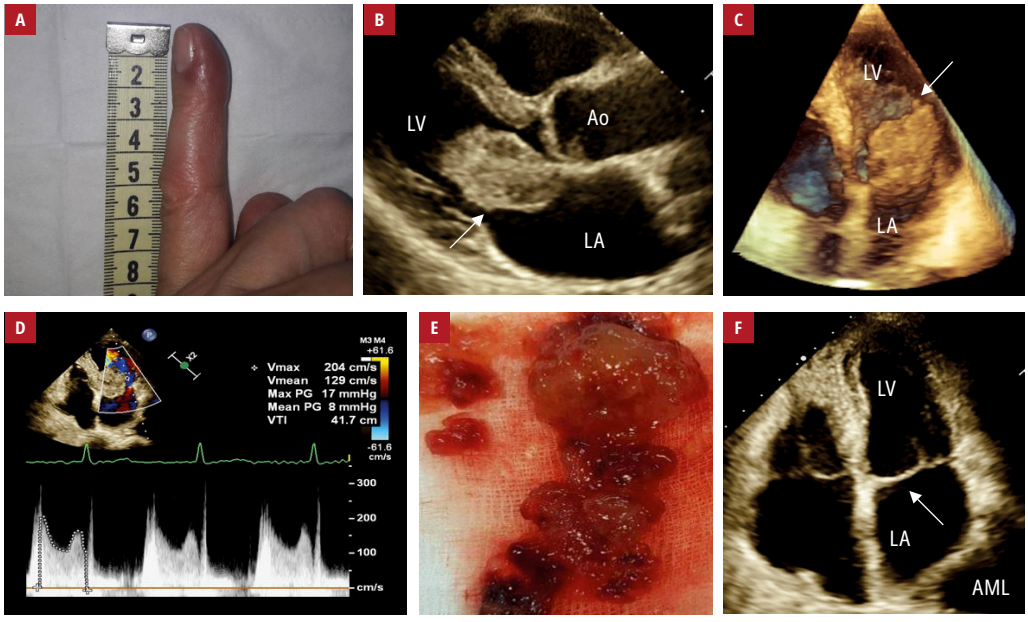

FIGURE 1 **A** – swelling and redness of the index fingertip; **B** – transthoracic echocardiography (TTE), long-axis view: a pathological mass possibly attached to the anterior mitral leaflet, prolapsing into the left ventricle during diastole (arrow); **C** – 3-dimensional TTE, 4-chamber view: a small, mobile structure on the tumor surface (arrow); **D** – Doppler measurements indicating functional mitral valve stenosis; **E** – a fragile myxomatous mass removed from the left atrium; **F** – follow-up TTE performed 3 months after the surgery, 4-chamber view: normal mitral valve morphology (arrow)
Abbreviations: AML, anterior mitral leaflet; Ao, aorta; LA, left atrium; LV, left ventricle

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A 62-year-old woman with an unremarkable medical history was referred for rheumatology consultation due to pain, redness, and swelling of several fingertips of both hands, which appeared within a few days (FIGURE 1A). Initially, rheumatoid arthritis was suspected. The patient denied any cardiovascular symptoms, such as dyspnea, chest pain, or arrhythmia. Soft diastolic murmur was heard during physical examination. Results of basic laboratory tests were within the normal range. Transthoracic echocardiography (TTE) revealed a large, irregular, and soft pathological mass, of 48 × 32 mm in size, which appeared to be directly attached to the anterior leaflet of the mitral valve

(MV) (FIGURE 1B). We noted no separation of the mass from the MV in any projection. No peduncle originating from the interatrial septum (IAS) was seen. Rare myxoma of the anterior mitral leaflet (AML) was suspected. Three-dimensional TTE showed a few small, mobile structures on the tumor surface (FIGURE 1C; Supplementary material, *Video S1*). Doppler imaging revealed moderate functional mitral stenosis (mean gradient, 8 mm Hg) (FIGURE 1D).

The tumor was precisely resected 5 days after TTE examination due to an increased risk of MV obstruction and systemic embolism. During the procedure, a fragile mass with a very short peduncle (FIGURE 1E) was found, attached to the IAS directly above the AML. The removed lesion did not damage the AML, so the MV repair or replacement were not necessary. Histological examination confirmed myxoma. Follow-up TTE performed 3 months after the surgery yielded normal results (FIGURE 1F). Abnormal lesions of the fingers did not recur.

Myxoma is the most common cardiac tumor located in the LA, usually pedunculated and attached to the central part of the IAS in the area of the fossa ovalis.[1] Importantly, echocardiography may be misleading in the case of myxomas located directly above the MV and mimic AML tumors. The site and origin of the tumor affect the extent of the surgery, and valve reconstruction or replacement may be required in some patients with AML myxoma.[2]

In the presented case, echocardiography demonstrated infiltration in the MV and a potential need for interventional treatment of the valve. The AML involvement was finally excluded during the surgery.

Of note, other imaging modalities, such as computed tomography and magnetic resonance imaging, may be also helpful in locating the tumor attachment site.[3]

Patients with myxoma may present nonspecific general symptoms, symptoms of valve obstruction, and systemic embolism including stroke.[1,4]

The embolic material usually contains fragments of the tumor or thrombi formed on its surface.[1,4] In our patient, we considered peripheral microembolism to be the cause of vascular lesions of the fingertips, which disappeared after tumor resection. No other symptoms of the disease were found. Of note, multiple small emboli may sometimes mimic vasculitis and cause arthralgia.[5] Therefore, patients are referred to specialists other than cardiologists, which causes delay in establishing the proper diagnosis.

SUPPLEMENTARY MATERIAL

Supplementary material is available at www.mp.pl/kardiologiapolska.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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