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A Christmas tree-shaped atrial myxoma causing transient ischemic attacks

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A Christmas tree-shaped atrial myxoma causing transient ischemic attacks

Short tittle: Christmas tree left atrial myxoma

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Cardiac myxoma is a well-known primary cardiac tumor usually located in the left atrium [1]. Cardiac myxomas most commonly appear on echocardiography as a pedunculated tumor attached to the interatrial septum, with a smooth outline that does not disturb bordering structures [2, 3]. We present a unique case of a myxoma with an extremely irregular and branchy structure and highly vascular phenotype that gave it the appearances of a lit Christmas tree on echocardiography. A 55-year-old woman was admitted to hospital after two consecutive episodes of transient ischemic attacks (TIA), that occurred within the 36 hours prior to admission. Past medical history did not reveal any previous complaints or diseases nor did she have a significant family history. Physical examination, laboratory tests and electrocardiography were normal. Transthoracic echocardiography revealed a large, extremely mobile mass in the left atrium (Figure 1A, B).

Transesophageal echocardiography (TEE) further demonstrated the irregular branchy morphology of this tumor (Figure 1C, D). Color doppler recorded with low flow velocity scale showed multiple color dots indicating significant tumor vascularity. It gave the tumor the appearance of colorfully lit Christmas tree moving in the wind (Supplementary materials, *Videos S1*, *S2*). Urgent coronary angiography excluded coronary artery disease but reveled a pathological branch of the right coronary artery (RCA) vascularizing the mass in the left atrium (Figure 1E). The Heart Team decided to perform urgent surgical resection of the tumor. A gelatinous, extremely fragile, pedunculated and easily fragmentable mass was excised during cardiac surgery (Figure 1F). Subsequent histopathology confirmed that it was a cardiac myxoma with no signs of malignancy. Five-year follow-up was uneventful, and the patient did not complain of any recurrent symptoms. Typically, cardiac myxoma are smooth-surfaced, pedunculated structures. The current case shows an extremely fragile and mobile subtype associated with multiple TIA. Urgent echocardiography, including TEE and low-velocity color Doppler imaging, was able to fully characterize the mass and to detect the presence of multiple small vessels, which were then confirmed by coronary angiography and histopathological exam. Extensive vascularization often suggests a malignant character of the tumor, due to abnormal neovascularization and demonstrate greater enhancement than the adjacent myocardium, but as documented here, it may also exist in benign tumors [5]. The irregular fragile structure of this myoxoma was associated with two recent TIA episodes in an otherwise healthy patient with no cardiovascular risk factors. The case shows that prompt diagnostic workup is essential in patients with TIA. Myxomas should be excised without delay, however it should be performed with the highest urgency in irregular tumors that have already led to embolic complications [1, 4]. Evidence of arteries vascularizing myxoma tumor may also lead to alterations in the resection strategy.

Supplementary material

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

Article information

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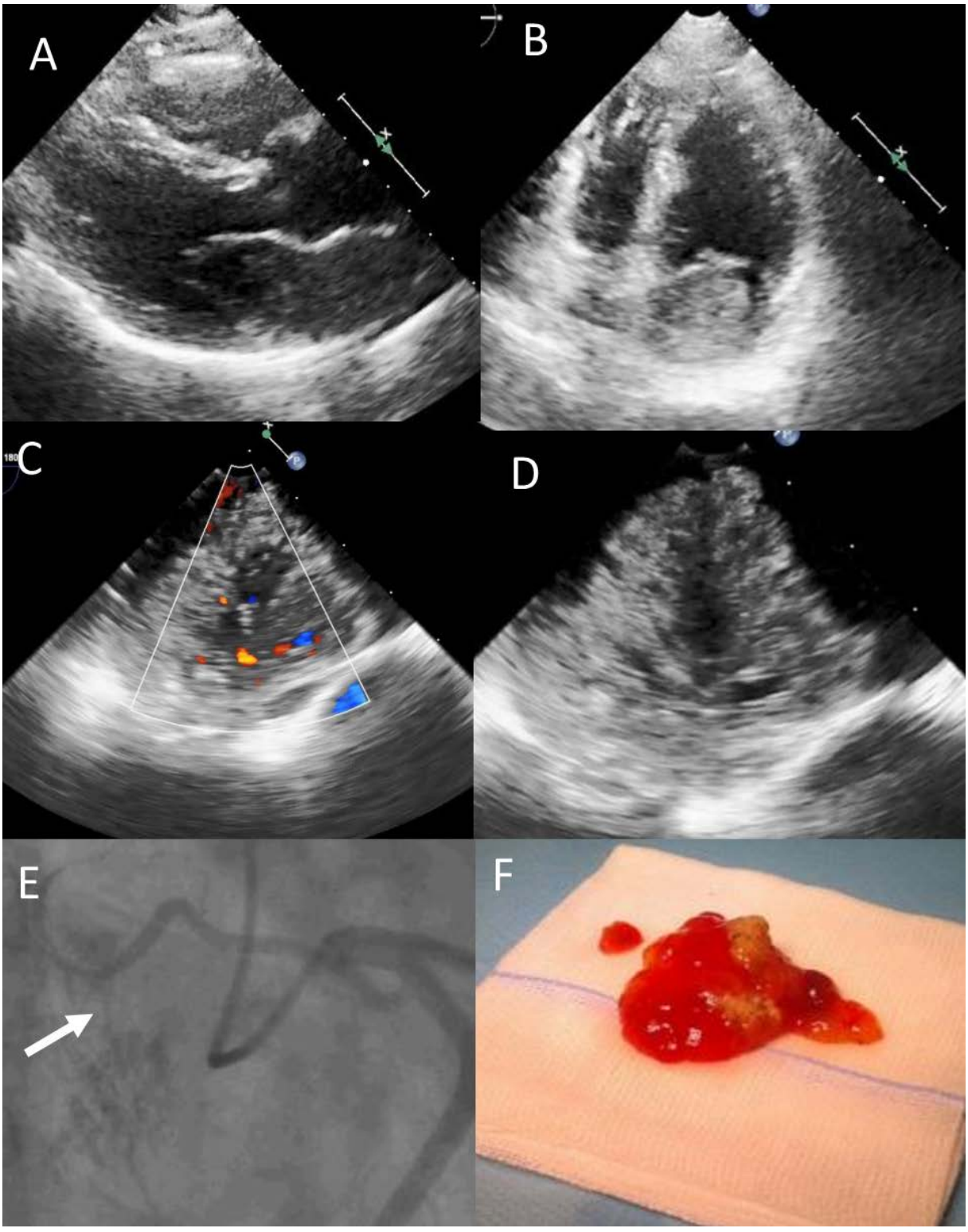

Figure 1. Cardiac myxoma, visualized using **A.** Transthoracic echocardiography — parasternal long axis view; **B.** Transthoracic echocardiography — four chamber view; **C.** and **D.** Transesophageal view. Branch of the right coronary artery vascularizing myxoma in the left

atrium in coronary angiography **E.** and gelatinous, pedunculated and fragile mass excised during cardiac surgery (the arrows) **F**.