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A rare myxoma in the right ventricular outflow tract

Sağ ventrikül çıkım yolunda nadir miksoma

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ABSTRACT

A 71-year-old man was admitted to our hospital for routine cardiac evaluation. Transthoracic echocardiography upon cardiac murmur showed a 1.9x2.9 cm right ventricular mass, protruding into the pulmonary artery during systole. Although the mass caused a maximal resting outflow gradient of 22 mmHg due to the obstruction of the pulmonary artery during systole, the patient was asymptomatic. Transesophageal echocardiography indicated a suspicious diagnosis of the right ventricular myxoma. The surgical excision of the intracardiac mass was scheduled due to an increased risk of embolism. The histopathological diagnosis was myxoma.

Keywords: Myxoma; right ventricle; three-dimensional echocardiography.

ÖZ

Yetmiş bir yaşında erkek hasta rutin kardiyak değerlendirme için hastanemize başvurdu. Kalp üfürümü nedeniyle çekilen transtorasik ekokardiyografide sağ ventrikülde sistolde pulmoner artere doğru hareket eden 1.9x2.9 cm boyutunda bir kitle saptandı. Kitle sistolde pulmoner arterde tıkanıklığa neden olduğu için, istrahatte maksimum 22 mmHg gradyant oluşturmasına rağmen, hasta asemptomatikti. Transözofageal ekokardiyografide sağ ventrikül miksoma tanısından şüphelenildi. Artmış emboli riski nedeniyle, intrakardiyak kitlenin cerrahi eksizyonu planlandı. Histopatolojik tanı miksoma idi.

Anahtar sözcükler: Miksoma; sağ ventrikül; üç boyutlu ekokardiyografi.

Myxomas are known to be most encountered benign tumors of the heart.[1] Although myxomas are often located in the left atrium, they rarely originate from the right atrium.[2] Up to 5% of these tumors can be found in the right ventricle.[3] Furthermore, they are unusually located in the right ventricular outflow tract (RVOT) and cause symptoms such as syncope, pulmonary embolism, arrhythmia and sudden death even, depending on the size and position.[4-6] In this report, we describe a case with a right ventricular myxoma protruding into the pulmonary artery with systole.

CASE REPORT

A 71-year-old asymptomatic male patient was admitted to our hospital for a routine cardiac examination because of his advanced age. A grade 1/6 systolic murmur was detected at the left upper sternal border. Further examination with transthoracic echocardiography (TTE) showed a suspicious mass in the RVOT. There were no pathological findings on electrocardiography or chest X-ray. For further evaluation, transesophageal echocardiography (TEE) was performed and it showed a mobile, irregular mass containing hypoechoic areas (1.9x2.9 cm in size) in the RVOT (Figure 1). The mass protruded into the pulmonary artery during systole. The anatomical features of the mass were able to be further described through three-dimensional (3D) TEE images. The mass was attached to the RVOT by a small pedicle (Figure 2) and protruded across the pulmonic valve into the pulmonary artery, resulting in nearly complete right ventricle outflow obstruction. A maximal resting outflow gradient of 22 mmHg was demonstrated on TTE views (Figure 3).

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Despite the lack of symptoms, surgical intervention was scheduled due to an increased risk of embolism. The histopathological diagnosis was compatible with myxoma after surgical excision.

DISCUSSION

Right ventricle is an extremely unusual location for myxomas. They may cause symptoms as a result of obstruction of the RVOT or main pulmonary artery. There are some case reports describing obstructive right ventricular myxomas causing pulmonary embolism, syncope, or sudden death.[4-6] Myxomas attached to the tricuspid valve may also damage the valve functions.[3,7] In our case, the myxoma was positioned in the RVOT protruding into the main pulmonary trunk during ventricular systole.

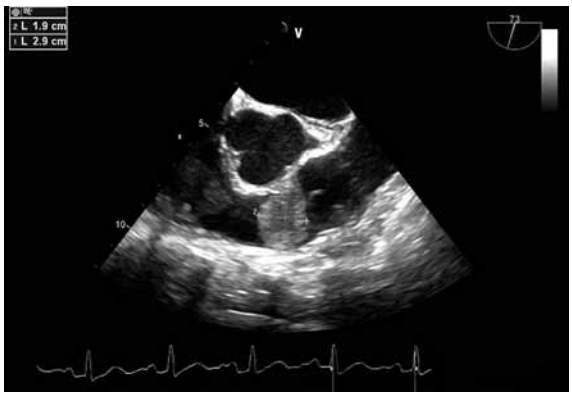

Figure 1. Short axis view of transesophageal echocardiography showing a mobile, irregular mass in the right ventricle outflow tract.

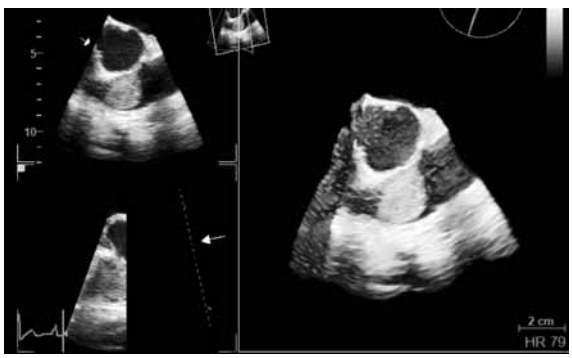

Figure 2. Live three-dimensional transesophageal echocardiography image of the myxoma below the pulmonary valve.

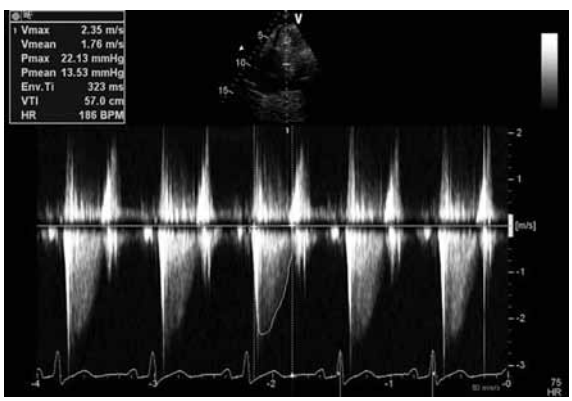

Figure 3. Transthoracic echocardiographic image showing a maximal resting outflow gradient of 22 mmHg.

Myxomas can be asymptomatic as in our case and may be diagnosed incidentally.[8] Two dimensional TTE can be used as an initial examination tool. However, TEE can more comprehensively define the mass. In our case, we were able to more accurately define the size, shape, and location of the myxoma with TEE in combination with three dimensional images.

Despite the lack of symptoms, surgery should be the treatment of choice to prevent possible complication related with obstruction and embolism. In our asymptomatic case, we also preferred surgical excision of the myxoma.

Declaration of conflicting interests

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