Multicavitated left atrial myxoma mimicking a hydatid cyst

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Abstract A 67 year-old asymptomatic patient was referred to our echo-lab because of hypertension. Transthoracic 2D-echocardiogram showed a non-prolapsing ovoid mass attached to the left side of the interatrial septum. Transesophageal echocardiography evidenced an ovoid cavitated mass with internal areas of calcification. Color Doppler revealed flow inside the cavities. At surgery, a multicavitated mass was observed attached to interatrial septum. Macroscopically revealed cavities filled with blood, as well as partially calcified areas. Microscopically there were collections of “lipidic” cells embedded in the myxoid matrix, typical of cardiac myxoma.

Cardiac hydatid cysts usually have a rounded shape. Most myxomas are solid masses without a cystic architecture or cavitations. Calcification is usually identified at a microscopic level. The combination of a polycystic appearance of the mass and macroscopic areas of calcification is more frequently observed in hydatid cysts than in cardiac myxomas. This appearance of the mass leads us to consider a cardiac echinococcal cyst as the first diagnostic possibility. This peculiar structure of cardiac myxoma, to the best of our knowledge, has never been documented. Transthoracic echocardiography and particularly transesophageal imaging, enable us to delineate this kind of tumors. Surgical resection is the appropriate treatment for these tumors, even in asymptomatic patients.

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Cavitated intracardiac masses include cystic atrial myxomas,1–3 hydatid cysts,4 right atrial pseudocysts from peritoneovenous shunts,5 and thrombus. While cystic changes have been described at autopsy in 14% of cardiac myxomas,6 its identification with echocardiography is rare, and the presence of multiple cavities has not been so far reported. Calcification can be demonstrated in 57% of necropsic specimens of left atrial myxomas6 but it is usually microscopic. Transesophageal cross-sectional echocardiography is a reliable technique in the diagnosis of intracavitary cardiac masses. Here we report a case of a 67 year-old woman with a large mass of polycystic appearance, attached to the interatrial septum, with blood filling the multiple cavities and with small areas of calcification.

Case report

A 67 year-old woman was referred to our outpatient’s clinic because of a recently diagnosed high blood pressure of difficult control. She was asymptomatic and her personal and familiar past histories were unremarkable. The 12-lead electrocardiogram showed a sinus rhythm without significant abnormalities. The chest X-ray was unremarkable. A transthoracic 2D-echocardiogram showed an ovoid mass (45 × 35 × 15 mm) in the left atrium with heterogeneous echogenicity (Fig. 1A). The mass was attached to the interatrial septum without obstructing the mitral orifice filling. The patient was subjected to a transesophageal cross-sectional echocardiographic examination which clearly evidenced the presence of an ovoid cavitated mass in the left atrium with some internal areas of calcification (Fig. 1B). The mass, slightly mobile and nonprolapsing into mitral valve during diastole, was attached to the top of the left aspect of the interatrial septum with a broad base of implantation. Color Doppler revealed flow inside the mass cavities (Fig. 1C). A complementary magnetic resonance study was performed (Fig. 1D). The patient underwent surgical treatment and at

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Figure 1  A. 2D-transthoracic echocardiogram in apical four-chamber view showing the mass (arrow) in the LA attached to the upper area of the interatrial septum. The mass, that is well delineated and exhibits a heterogeneous content, does not interfere with the mitral valve flow. B. Transesophageal echocardiogram showing the mass implanted in the interatrial septum. The mass has a polycystic appearance (arrow), with small hyperechogenic dots corresponding to calcified areas. C. Color Doppler examination demonstrated flow inside the cavities. D. Axial T1-weighted MRI slice at the level of the great vessels. It shows a mass with heterogeneous appearance: tumor corps with high signal intensity and inner areas of absent signal. The high signal intensity likely represents the myxomatous components, while the low intensity areas correspond to flow inside the cavities, also depicted on color Doppler image from transesophageal echocardiogram. Ao: aorta; LA: left atrium; LV: left ventricle; MRI: magnetic resonance imaging; RA: right atrium; RV: right ventricle.
the operation, a grey–reddish, smooth surfaced, multicavitated mass was observed to be attached to the left side of the interatrial septum. The mass was removed, including the area of interatrial septum where it was implanted. The septum was reconstructed with a pericardial patch. The mass weighed 20 g and macroscopically revealed cavities filled with blood, as well as partially calcified areas (Fig. 2A). Microscopically it consisted of an abundant myxoid matrix with dilated vessels and inflammatory cells. There were collections of “lipidic” cells (myxoma cells) embedded in the myxoid matrix (Fig. 2B). These cells were multinucleated with a characteristic ovoid nucleus, typical of cardiac myxoma. The patient was discharged 10 days after surgery and the 2D-echocardiographic study 1 year after the operation has not shown recurrence of the tumor.

Discussion

In this report we present the case of an asymptomatic patient in whom a left atrial mass was diagnosed on a routine 2D-echocardiographic study. The polycystic appearance of the mass and the presence of macroscopic calcific areas lead us to consider a cardiac echinococcal cyst as the first diagnostic possibility. As in our patient, cardiac hydatid cysts usually have a rounded shape with a well-delineated outline. The pathologic examination established the diagnosis of cardiac myxoma. Most myxomas are solid masses without a cystic architecture or cavitations. Exceptionally, cystic myxomas have been reported having a serous fluid inside the cyst, or inner hemorrhages. About 57% of cardiac myxomas are calcified, but calcium is usually identified at a microscopic level. The combination of a polycystic appearance of the mass and macroscopic areas of calcification is more frequently observed in hydatid cysts than in cardiac myxomas. This peculiar structure of cardiac myxoma, to the best of our knowledge, has never been documented before. 2D-transthoracic echocardiography and particularly transesophageal imaging, enable us to delineate this kind of tumors. Surgical resection is the appropriate treatment of these masses, even in the asymptomatic patient.

References