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CASE REPORT

Cardiac lipoma

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Lipomas of the heart are encapsulated tumors that are composed primarily of mature fat cells. Cardiac lipomas can originate either from subendocardium (approximately 50%), subpericardium (25%), or from the myocardium (25%) and may be located more frequently in left ventricle or right atrium. We report a 74-year-old female who presented with dyspnea on exertion and was found to have 5 × 5 cm mass occupying most of the right atrium on a transesophageal echocardiogram.

Keywords: *lipoma*; *cardiac*; *TEE*; *dyspnea*

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Primary tumors of the heart are rare, with an incidence between 0.2 and 0.4% reported in autopsy series (1, 2). Around 75% of these tumors are benign, with myxomas making up 24.4 and 8.4% represented by lipomas (3). Lipomas of the heart are encapsulated tumors that are composed primarily of mature fat cells. The etiology of lipomas remains unknown; however, an association with chromosome 12 gene rearrangements has been seen in solitary lipoma cases where an abnormality in HMGA2-LPP fusion gene was noted (4).

Case report

A 74-year-old female with no significant past medical history presented with a 6-month history of dyspnea on exertion when walking three to four blocks and an acute episode of dizziness during ambulation. Vital signs and physical examination were unremarkable. Complete blood count, basic metabolic profile, B-type natriuretic peptide, troponins, and EKG were within normal limits. A transthoracic echocardiogram revealed a 5 × 5 cm mass in the right atrium (Fig. 1). A transesophageal echocardiogram was performed, which confirmed the presence of 5 × 5 cm mass occupying most of the right atrium (Fig. 2). The patient underwent successful resection of the mass from the right atrial septum and free wall. Pathologic examination revealed a 50 g bilobed lipoma. Repeat-echo showed complete removal of the mass. On follow-up appointment, the patient was asymptomatic.

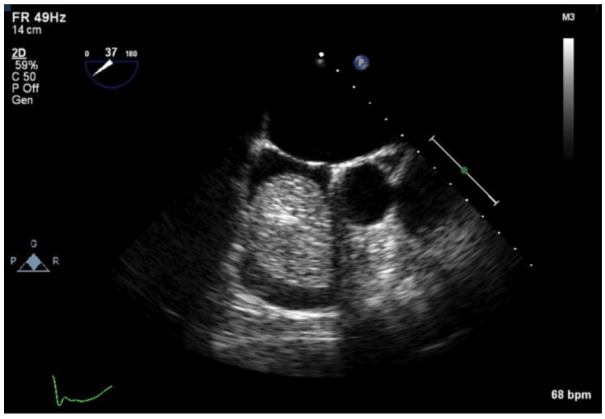

Fig. 1. 5 × 5 cm mass in the right atrium.

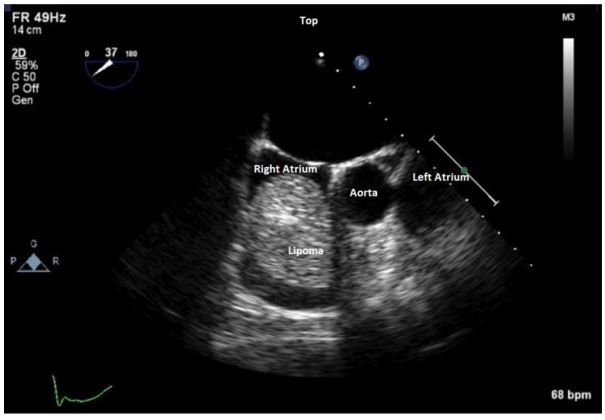

Fig. 2. 5 × 5 cm mass in the right atrium.

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Discussion

Lipomas can occur at any age, typically seen in fifth and sixth decades of life, and affects both genders equally (5–7). Cardiac lipomas can originate either from the subendocardium (approximately 50%), subpericardium (25%), or myocardium (25%) and maybe located more frequently in the left ventricle or right atrium (8). Clinical manifestations of cardiac lipomas depend on tumor size and location. Patients may be asymptomatic with small lesions but often develop compressive or obstructive signs (9). Intracavitary lesions can manifest as dyspnea secondary to obstruction of blood flow, as in our patient. Syncope, arrhythmia, palpitations, and angina are other symptoms patients may complain of.

The initial diagnostic test with a suspected cardiac mass is echocardiography (9, 10). This allows one to determine the position and extent of the mass; however, there are limitations in differentiating tissue characteristics (10). The investigations of choice in demonstrating lipomatous tumors consist of CT and MRI (9, 10). Both these investigations allow for the differentiation of lipoma from liposarcoma (10). Coronary arteriography can provide valuable information to the operating-surgeon by defining the coronary anatomy and outlining the arterial supply coming from the left and right coronary (10). Lipomas must be differentiated from liposarcomas not only radiologically but also histologically. Histologically, cardiac lipomas are made up of mature adipocytes that are limited by collagenous capsule, while liposarcoma are made predominately of mature fat cells (10).

Surgical excision of cardiac lipomas has good long-term success and low morbidity (11, 12). It is important to remove the entire tumor with the capsule and pedicle intraoperatively to prevent tumor recurrence (10). Our patient had surgical excision of her cardiac mass, and her symptoms clinically improved.

Conflict of interest and funding

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