A Murmur-free Giant Myxoma Discovered Incidentally on Abdominal Ultrasonography

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Abstract

Patients with myxoma normally present with cardiovascular symptoms due to mitral valve obstruction caused by the tumor. However, some cases are difficult to diagnose because the findings of auscultation are normal and there are no cardiovascular symptoms. A 62-year-old man presented at a nearby clinic with a fever. No cardiac murmurs were heard on a physical examination. Abdominal ultrasonography was conducted to evaluate the origin of the fever, and a giant left atrial myxoma was discovered incidentally. Although many myxoma cases are found on transthoracic echocardiography, we herein describe a case of a giant left atrial myxoma incidentally discovered on abdominal ultrasonography.

Key words: abdominal ultrasonography, cardiac murmur, myxoma, primary cardiac tumor


Introduction

Primary cardiac tumors are quite rare (1). An earlier study reported that there were only seven primary cardiac tumors on pathological examinations of 12,485 consecutive patients (2). At least 75% of primary cardiac tumors are benign (3), of which myxomas are most often observed. In patients with primary cardiac tumors, cardiovascular symptoms caused by mitral valve obstruction are normally present. The classic tumor plop on auscultation is so famous among symptoms as to be described in textbooks. In addition, an enhanced S₂ or diastolic rumble, as observed in patients with mitral valve stenosis, can often be heard. Symptoms of heart failure due to transmitral obstruction caused by the tumor are often present. However, it can be difficult to diagnose myxoma if physicians rely excessively on cardiovascular symptoms because there are murmur-free cases (4) and patients with no symptoms of heart failure. We therefore believe that it is important to list myxoma in the differential diagnosis of a fever of unknown origin with no cardiovascular symptoms and that diagnostic imaging examinations, such as ultrasonography, which are less invasive, are quite effective for making a diagnosis.

Cardiac tumors are often found on screening transthoracic echocardiography. We herein report a case in which a murmur-free giant myxoma was incidentally discovered on abdominal ultrasonography.

Case Report

The patient was a 62-year-old man with a past history of appendectomy at 37 years of age who had been visiting a nearby clinic for chronic alcoholic hepatitis and hypertension. Approximately two months earlier, he experienced a loss of appetite. Subsequently, approximately 20 days later, he developed a low-grade fever and persistent general malaise and visited a nearby clinic one week prior to admission due to a fever of 38.2°C. However, no abnormalities were found, and he was treated with levofloxacin. When the fever recurred, he again visited the clinic, and blood tests showed worsening hepatic dysfunction and a surge in the inflammatory response compared with the previous data: alkaline phosphatase (ALP)=1,307 IU/L; γ-GTP=293 IU/L; and C-reactive protein (CRP)=13.7 mg/dL. A hepatic abscess was suspected, and abdominal ultrasonography was performed.
A cardiac tumor was suspected, and the presence of a tumor in the left ventricle (Fig. 1, 2) was incidentally discovered on abdominal ultrasonography (sagittal scan). The yellow arrow is pointing to a mass lesion.

The laboratory data obtained on admission were as follows: WBC=8,700/μL; RBC=3.08×10^{12}/L; Hb=10.5 g/dL; Ht=30.4%; MCV=98.7 fL; MCH=34.1 pg; MCHC=34.5 g/dL; RDW=14.3%; platelet count=514×10^{12}/L; total protein=6.8 g/dL; albumin=2.9 g/dL; BUN=12 mg/dL; creatinine=0.77 mg/dL; Na=140 mEq/L; K=4.7 mEq/L; Cl=105 mEq/L; AST=25 IU/L; ALT=23 IU/L; ALP=1,120 IU/L; γ-GTP=244 IU/L; T-Bil=0.28 mg/dL; CRP=6.2 mg/dL; and D-dimer=1.1 μg/mL. The electrocardiogram (ECG) was normal, with a heart rate of 60 bpm. No abnormalities were found on a chest X-ray. A tumor-like lesion considered to be a left atrial myxoma was found on transthoracic echocardiography. The tumor measured 38 mm×24 mm in size and was invading into the left ventricle through the mitral valve during diastole (Fig. 3).

A giant left atrial myxoma was strongly suspected on transthoracic echocardiography. Although no symptoms of heart failure were present, the patient was hospitalized emergently because the tumor appeared to be invading into the left ventricle over the mitral valve and there was a risk of sudden death from an unstable hemodynamic status due to complete obstruction by the tumor.

Although no hepatic abscesses were found, a high-echo image of a tumor in the left ventricle (Fig. 1, 2) was incidentally discovered. A cardiac tumor was suspected, and the patient was referred for further examinations. Transthoracic echocardiography performed after the initial consultation showed a cardiac tumor measuring 38 mm×24 mm in size that was considered to be an atrial myxoma. Although no symptoms of heart failure were present, the patient was hospitalized emergently because the tumor appeared to be invading into the left ventricle over the mitral valve at diastole. There was a risk of sudden death from an unstable hemodynamic status due to complete obstruction by the tumor.

The results of the physical examination on admission were as follows: height=170 cm; weight=57 kg; BP=122/80 mmHg; temperature=36.6°C; heart rate=62 bpm (regular); respiratory rate=16/min; SpO₂=99% (room air); consciousness=lucid; no lymphadenopathy in the anterior neck, axilla, supraclavicular fossa or groin; normal heart sounds with no S3 or S4; no cardiac murmurs; clear respiratory sounds; a flat, soft and nontender abdomen; no edema in the lower legs; and no dermal emboli.

Figure 1. A mass lesion in the left ventricle was incidentally discovered on routine abdominal ultrasonography (sagittal scan). The yellow arrow is pointing to a mass lesion.

Figure 2. An image close to a sagittal scan that was taken in order to better observe the tumor by changing the angle of the ultrasonographic probe from the epigastrium to the direction of the tumor in the left ventricle. The yellow arrow is pointing to a mass lesion.

Figure 3. Transthoracic echocardiography shows a cardiac tumor measuring 38 mm×24 mm that was suspected to be an atrial myxoma. The lesion appears to be invading the left ventricle over the mitral valve during diastole.

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A giant left atrial myxoma was strongly suspected on transthoracic echocardiography. Although no symptoms of heart failure were evident at admission, we decided that surgery should be performed immediately due to the risk of sudden death. The patient was transferred to our affiliated hospital for surgery, and surgery was performed on the day of transfer. Macroscopically, the lesion was clearly a myxoma, measuring 47 mm×47 mm×30 mm in size after resection (Fig. 4). The diagnosis of myxoma was confirmed pathologically. The patient’s recovery after surgery was satisfactory, and he was discharged on hospital day 10 without any complications.

**Discussion**

We herein described the case of a giant left atrial myxoma discovered incidentally on abdominal ultrasonography. Although the patient underwent a medical checkup every year, there were no indications of any abnormalities other than chronic alcoholic hepatitis and hypertension. When the patient visited us, neither cardiac murmurs nor ab-
normalities on an ECG or chest X-ray were observed. A liver abscess was suspected at a nearby clinic; however, a left atrial myxoma was incidentally discovered on abdominal ultrasonography. Although many myxoma cases are found on transthoracic echocardiography conducted to screen for cardiac tumors, there are few reports of cases in which a left atrial myxoma has been discovered incidentally on abdominal ultrasonography.

A series of case reports that focused on the clinical features of 112 myxoma cases noted that, whereas the rate of auscultatory abnormalities was 64%, that of classic tumor plops was only 15% (5). In other words, textbook-like myxomas that exhibit typical auscultatory abnormalities are not often seen. Since the above report noted that the findings of auscultation were normal in 36% of the patients and that no cardiovascular symptoms were evident in 33% of the cases, it can be rather difficult to diagnose myxomas on auscultation only or based on cardiovascular symptoms.

Left atrial myxomas can be included in the differential diagnosis of a fever of unknown origin (6) because patients with left atrial myxomas may visit the hospital with general complaints, such as fever or weight loss. As a result of these complaints, a workup for connective tissue disease is sometimes conducted (7, 8). It has been suggested that interleukin-6 generated by the myxoma causes the same systemic symptoms as connective tissue diseases (9). In the present case, a hepatic abscess was suspected due to the patient’s fever, hepatic dysfunction and high inflammatory response, and the findings of abdominal ultrasonography became the key to diagnosing the myxoma. Although, in the present case, it was not echocardiography, but abdominal ultrasonography, that incidentally discovered the left atrial myxoma owing to the large size of the lesion, this case serves to emphasize the importance of ultrasonography in diagnosing myxomas.

We herein described a case of a giant, murmur-free left atrial myxoma that was incidentally discovered on abdominal ultrasonography. We firmly believe that, when examining a patient with general malaise and/or a fever that is difficult to diagnose, it is therefore important to include myxoma in the differential diagnosis and perform transthoracic echocardiography.

The authors state that they have no Conflict of Interest (COI).

Acknowledgement
The authors would like to thank Mr. Takeshi Asakura for his valuable advice related to the writing of this manuscript.

References

Figure 4. The resected left atrial myxoma measures 47 mm×47 mm×30 mm.