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Rare Cardiac Tumor: Diagnosis And Management Of Atrial Myxoma With Computerized Tomography

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Abstract: Atrial myxomas are the most common benign primary cardiac tumors, predominantly located in the left atrium and frequently diagnosed between the ages of 30 and 60, with a higher prevalence in women. Although often asymptomatic, these tumors can present with various symptoms, including dyspnea, palpitations, and systemic embolic events, depending on their size, location, and mobility. We report the case of a 62-year-old female patient with a left atrial myxoma, presenting with mild dyspnea and palpitations. The patient's past medical history included hypertension and type 2 diabetes, with no prior history of cardiovascular disease. Initial transthoracic echocardiography (TTE) revealed a pedunculated mass in the left atrium, partially obstructing the mitral valve opening. Contrast-enhanced computed tomography (CT) further confirmed the diagnosis of atrial myxoma. Surgical resection was performed successfully, with histopathological confirmation of the myxoma. Postoperative imaging showed no residual mass, and the patient's symptoms resolved entirely. This case underscores the importance of prompt diagnosis and surgical intervention in atrial myxoma cases to prevent potential embolic complications and hemodynamic deterioration. Early surgical removal offers an excellent prognosis, minimizing the risk of recurrence. Regular follow-ups remain essential to monitor for potential recurrence, although rare. This case emphasizes the role of echocardiography and CT in the diagnostic process and highlights the favorable outcome achievable with early intervention in atrial myxoma cases.

Nadir Kardiyak Tümör: Atriyal Miksomanın Bilgisayarlı Tomografi ile Tanı ve Yönetimi

Anahtar Kelimeler
Atriyal miksoma,
Kardiyak tümör,
Embolik komplikasyon

Öz: Atriyal miksomalar, en yaygın görülen benign primer kardiyak tümörlerdir ve genellikle sol atriyumda yerleşir. En sık 30 ile 60 yaşları arasında teşhis edilir ve kadınlarda daha yüksek prevalansa sahiptir. Çoğu zaman asemptomatik olmalarına rağmen, boyut, konum ve hareketliliklerine bağlı olarak dispne, çarpıntı ve sistemik embolik olaylar gibi çeşitli semptomlarla ortaya çıkabilirler. Bu makalede, hafif dispne ve çarpıntı şikayetleriyle başvuran 62 yaşında bir kadın hastanın sol atriyal miksoma vakası sunulmaktadır. Hastanın tıbbi geçmişinde hipertansiyon ve tip 2 diyabet bulunmakta olup, kardiyovasküler hastalık öyküsü yoktu. İlk transtorasik ekokardiyografi (TTE) incelemesinde mitral kapak açıklığını kısmen tıkayan pedinküllü bir kitle tespit edildi. Kontrastlı bilgisayarlı tomografi (BT) tetkiki, atriyal miksoma tanısını doğruladı. Cerrahi olarak tümör başarılı bir şekilde çıkarıldı ve histopatolojik inceleme miksoma tanısını kesinleştirdi. Ameliyat sonrası görüntülemelerde rezidü kitle saptanmadı ve hastanın semptomları tamamen düzeldi. Bu vaka, atriyal miksomalarda erken tanı ve cerrahi müdahalenin önemini vurgulamaktadır. Erken cerrahi eksizyon, embolik komplikasyonları ve hemodinamik bozulmayı önleyerek mükemmel bir prognoz sunar ve nüks riskini en aza indirir. Nadir de olsa olası nüksleri izlemek için düzenli takipler gereklidir. Bu olgu, atriyal miksoma tanısında ekokardiyografi ve BT'nin kritik rolünü ortaya koymakta ve erken müdahalenin sağladığı olumlu sonuçları vurgulamaktadır.

1. INTRODUCTION

Atrial myxomas are the most common primary tumors of the heart.They are usually benign, and are located in the left atrium in 75% of cases [1]. It is seen in approximately 0.5 out of 100,000 people and constitutes approximately 50% of all primary cardiac tumors [2]. These tumors, more commonly seen in women, are usually diagnosed between the ages of 30 and 60 [3]. Clinical presentations are quite variable; patients may be asymptomatic or present with various findings such as decreased cardiac output, embolic events and systemic symptoms depending on the size, location and movement of the myxoma [4]. Among these symptoms, cardiovascular symptoms such as shortness of breath, palpitations, dizziness, and syncope are prominent. If the tumor is located in the left atrium near the mitral valve, it can narrow the mitral valve opening, leading to findings similar to mitral stenosis [5].

Transthoracic echocardiography (TTE) is usually the first choice for the diagnosis of atrial myxomas. TTE is a reliable method for assessing the size, mobility and hemodynamic effects of the myxoma. However, advanced imaging methods such as computed tomography (CT) and magnetic resonance imaging (MRI) are also used to examine the characteristics of the tumor in more detail and to evaluate its relationship with surrounding tissues [6]. These methods also play an important role in the surgical treatment planning of atrial myxoma.

Surgical removal of atrial myxomas is the mainstay of treatment recommended to prevent embolic complications and cardiac symptoms. The prognosis after surgical intervention is generally good, but recurrence of myxomas has been reported in rare cases [7]. In this case report, an atrial myxoma detected by CT and TTE in a 62-year-old female patient will be discussed in light of the literature.

2. CASE REPORT

A 62-year-old female patient presented to the cardiology outpatient clinic with complaints of palpitations and occasional shortness of breath. Her medical history included primary hypertension and type 2 diabetes, and she had been receiving antihypertensive and antidiabetic treatment for approximately five years. The patient had no history of smoking or alcohol use, and there was no known family history of heart disease. She had no history of surgery or cardiovascular disease. Her blood pressure values were generally around 140/90 mmHg, and her blood sugar levels were kept under control with oral antidiabetic treatment.

On physical examination, the patient was alert, cooperative, and hemodynamically stable. No significant murmur was detected during cardiac auscultation. Although the patient had mild bilateral edema in the legs, no pathological findings were observed on lung auscultation. Electrocardiography (ECG) revealed a sinus rhythm, and the cardiac axis was evaluated as normal. TTE was planned before recommending an exercise test or further non-invasive evaluations.

In the TTE examination, a pedunculated, mobile mass approximately 1.9 x 2 cm in size was detected in the posterior wall of the left atrium, located between the mitral annulus and the papillary muscle. It was considered that the mass had the potential to partially obstruct the mitral valve opening and could affect mitral valve functions. The left ventricular ejection fraction (EF) was measured at 55%

To clarify the diagnosis, a contrast-enhanced thoracic CT scan was performed. The CT scan revealed a well-defined mass in the left atrium with intense contrast enhancement. The CT findings were consistent with an atrial myxoma. The pedunculated nature of the mass, its mobility, and potential for growth posed a risk of obstructing the mitral valve opening. This condition was thought to potentially lead to hemodynamic deterioration in the patient over time. Additionally, due to the mass's size and location within the left atrium, the increased risk of embolism was considered, and urgent surgical treatment was planned.

The patient was referred to the cardiovascular surgery team and underwent surgery. During the operation, a pedunculated and mobile myxoma located in the left atrium was excised. The mitral valve structure was carefully examined, and it was determined that the damage caused by the mass to the valve was minimal. No complications occurred during surgery or in the postoperative period. The excised tumor was sent for histopathological examination, which confirmed the diagnosis of atrial myxoma.

In the postoperative TTE, no residual tumor or recurrence was observed in the left atrium. The left ventricular EF was measured within normal limits at 60%. Although mild fibrotic changes and minimal valve regurgitation were detected in the mitral valve, overall valve function was satisfactory. No pathological findings were observed in the aortic and tricuspid valves, and there was no evidence of pulmonary hypertension or other complications. The patient's cardiac functions returned entirely to normal in the postoperative period, and her symptoms subsided. The patient is stable and continues to be monitored with regular cardiology follow-ups.

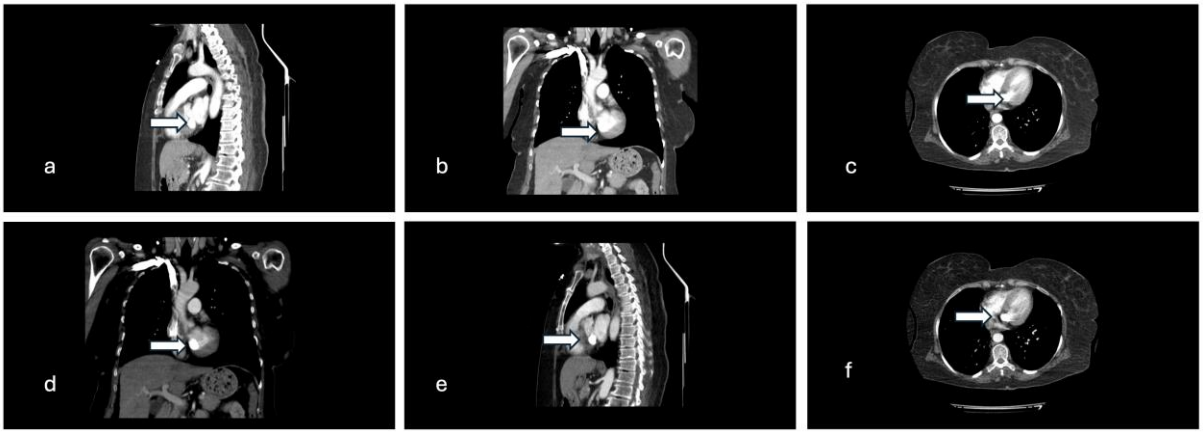

Figure 1. Different views of the atrial myxoma located in the left atrium as seen on CT images: a, e) Sagittal view of the atrial myxoma, b, d) Coronal view of the atrial myxoma, c, f) Axial view of the atrial myxoma indicated by white arrows.

4. DISCUSSION AND CONCLUSION

Atrial myxomas, though among the most common primary benign tumors of the heart, can exhibit a highly variable course in terms of clinical symptoms and prognosis. In this case, a pedunculated and mobile myxoma located in the left atrium was identified in a 62-year-old female patient who presented with complaints of palpitations and shortness of breath. While these tumors may remain asymptomatic, they can also lead to severe cardiac dysfunction through embolic complications or obstructive symptoms. In this case, the decision for surgical intervention was made due to the myxoma's partial obstruction of the mitral valve opening and its associated embolic risk.

This case stands out in the clinical literature as an example of atrial myxoma being detected with mild symptoms in a patient presenting with cardiac symptoms and successfully treated with early diagnosis. The majority of atrial myxomas are located in the left atrium and, as stated in the literature, are more common in women [8]. In our case, the patient's female gender and the location of the myxoma in the left atrium are consistent with this information in the literature.

In the literature, surgical removal of atrial myxomas is considered the standard treatment method due to the high risk of these tumors causing embolic complications [9]. Myxomas may increase the risk of cerebral, pulmonary or peripheral embolism due to their mobile and pedunculated structure [10]. In this case, it was determined in CT and TTE that the myxoma was mobile and affected the mitral valve functions. This situation shows that early surgical intervention is mandatory. In the literature, the prognosis after early surgical intervention is generally good and the complication rates are low [11]. In our case, no complications developed after surgery and cardiac functions completely returned to normal.

Atrial myxomas are rare tumors that can recur. A study by Jiang et al. emphasized the importance of careful postoperative follow-up despite the low recurrence rate after myxoma removal [7]. In our patient, postoperative TTE examinations confirmed the complete removal of the tumor with no residual presence. However, in light of the literature, long-term follow-up remains necessary.

This case highlights the importance of detecting atrial myxoma in a patient presenting with asymptomatic or mild symptoms. Cardiac symptoms can often be nonspecific, and the diagnosis of a rare tumor such as myxoma can be missed, especially if not provided by TTE. Furthermore, it is essential to distinguish atrial myxomas from other cardiac masses, as highlighted in recent reports of atypical presentations and confounding imaging findings in cases of giant cardiac masses [12]. Rare malignant cardiac tumors such as malignant fibrous histiocytomas can mimic benign masses like myxomas, emphasizing the importance of accurate imaging and histopathological confirmation [13]. Furthermore, considering the hemodynamic effects of myxoma and the risk of embolic complications, this case demonstrates that favorable outcomes can be achieved with prompt surgical treatment.

This case reflects the typical clinical features of atrial myxoma as frequently described in the literature and its favorable prognosis after successful surgical treatment, once again demonstrating the importance of careful clinical and imaging evaluations in the diagnosis and treatment of myxomas.

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