

CLINICAL VIGNETTE

An Incidental Cardiac Mass

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Case Presentation

A 46-year-old female with no significant past medical history presented to her primary care physician with lower abdominal cramps, urinary discomfort, and vaginal bleeding. Her vital signs were within normal limits and her physical exam was unremarkable, with normal heart sounds and no murmurs, rubs, or gallops on cardiac auscultation. The initial evaluation of her presenting symptoms included a computed tomogram (CT) of her abdomen and pelvis, which revealed calcified right nephrolithiasis and incidentally visualized part of a soft tissue structure in the pericardial space.

Cardiology consultation obtained further review of symptoms. For approximately 20 years she had intermittent episodes of left axillary pain radiating to her left sternum, at times associated with chest heaviness and palpitations. She had a remote cardiac evaluation with a chest X-ray and electrocardiogram (EKG) reportedly unremarkable.

Further cardiac testing was undertaken to evaluate the pericardial abnormality. Her EKG showed a normal sinus rhythm, right axis deviation, and an incomplete right bundle branch block. Transthoracic echocardiogram revealed an ejection fraction of 61%, no significant valvular dysfunction, and the presence of a pericardiac mass arising from the left atrial appendage or AV groove. A computed tomography angiogram (CTA) of the chest confirmed a large soft tissue mass likely arising from the left atrial appendage or AV groove, measuring 5.1cm x 4 cm, with nodular internal arterial enhancement suggestive of a hemangioma (Figure 1). Notably, there was evidence of a slight mass effect on the left atrium and left ventricle. Otherwise, the heart was normal in size, with no pericardial effusion. Cardiac Magnetic Resonance Imaging with flow quantification revealed a large left pericardiac mass demonstrating progressive and avid late gadolinium enhancement.

The patient was referred to cardiothoracic surgery and underwent an elective radical excision of the left extracardiac atrioventricular groove mass. Surgical pathology was consistent with a mixed cavernous and capillary type cardiac hemangioma. Her postoperative course was notable for transient atrial fibrillation, but she otherwise remained hemodynamically stable. She was doing well on follow-up.

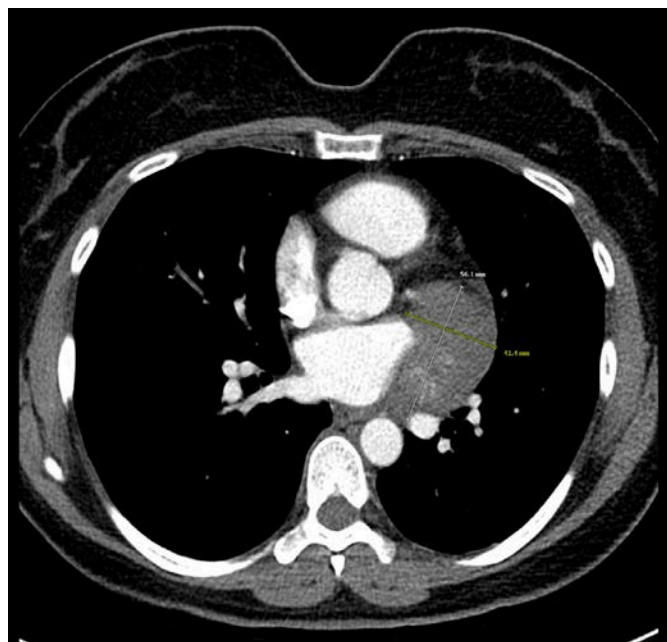


Figure 1: Chest CTA revealing the large pericardial mass.

Discussion

Cardiac hemangiomas are rare, benign vascular tumors of the heart, accounting for only 1-2% of all primary cardiac tumors.¹ Despite their benign nature, they can present with a wide range of clinical symptoms depending on their size, location, and effect on cardiac function.

As demonstrated by this case, cardiac hemangiomas are often asymptomatic and discovered incidentally during imaging obtained for evaluation of other, non-cardiac symptoms.² Cardiac hemangiomas constitute only 2.8% of primary cardiac tumors.¹ When symptomatic, they can present with arrhythmias, obstructive symptoms, or thromboembolic events, depending on their size and location within the heart.

The diagnosis of cardiac hemangioma typically involves a combination of imaging modalities.¹ Echocardiography is often the first diagnostic tool, though is typically insufficient for definitive diagnosis. Cardiac magnetic resonance imaging (MRI) provides superior tissue characterization and helps in distinguishing hemangiomas from other cardiac masses such as myxomas or fibromas.³

The management of cardiac hemangiomas depends on the symptoms, candidacy for surgery, and potential complications. Asymptomatic patients with small, non-obstructive Hemangiomas may be managed conservatively with regular follow-up imaging. However, symptomatic patients, or those with large or obstructive tumors, may require surgical resection. This patient's symptoms and the large tumor size lead to recommending surgical excision. The patient underwent successful surgical resection of the mass without complications. Histopathological examination confirmed the diagnosis of a cardiac hemangioma.

Hemangiomas can be composed of small capillaries or large, cavernous vascular channels; the latter is the most common type.^{2,4} Cardiac hemangiomas can be located anywhere in the heart, pericardium, endocardium, and myocardium.² They generally grow at a slow rate, and lack the ability to metastasize.² As such, even if surgical resection is not recommended or feasible, most studies report these tumors have favorable long-term outcomes, including the possibility of spontaneous regression.^{2,4}

Conclusion

Cardiac hemangiomas, though rare and often incidentally identified, should be considered in the differential diagnosis of cardiac masses. Multimodality imaging, particularly cardiac MRI, plays a crucial role in the diagnosis and management of these tumors. Surgical resection is indicated in symptomatic patients and overall prognosis is favorable for patients.

REFERENCES

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