THE ANATOLIAN JOURNAL OF CARDIOLOGY

Official journal of the TURKISH SOCIETY OF CARDIOLOGY

Rare Gourd-Shaped Cardiac Hemangioma: Computed Tomography Imaging Characteristics and Clinical Management

A 60-year-old woman presented with a 5-year history of chest discomfort and occasional syncope. Physical examination was unremarkable. Transthoracic echocardiography revealed a large, highly echogenic mass filling the right ventricle. Further evaluation with contrast-enhanced cardiac computed tomography (CT) showed a lesion with a gourd-like appearance, consisting of a larger portion (45 mm x 35 mm) and a smaller portion (15 mm x 10 mm) connected together, adherent to the right ventricular free wall (Figure 1A, arrows and asterisks). Early-phase imaging showed minimal irregular enhancement within the tumor, while delayed imaging at 90 s demonstrated more tortuous, vine-like enhancement patterns (Figure 1B, arrows and asterisks; supplementary material online, Video 1), supporting a diagnosis of hemangioma. The patient underwent surgical excision of the tumor under direct visualization, and histopathological examination revealed irregularly dilated vascular spaces consistent with a cavernous hemangioma. The postoperative course was uneventful, and the patient was discharged 1 week later. At a 2-year follow-up, the patient had a good prognosis with no recurrence.

Cavernous hemangiomas of the heart are rare benign tumors, accounting for approximately 2.8% of all primary cardiac tumors,[1] and they typically arise from the ventricles, valves, and atria, rarely from the epicardium.[2] Hemangiomas can be classified based on histopathology into cavernous (with multiple dilated thin-walled vessels), capillary (with small capillaries), and arteriovenous (with malformed arteries and veins) types. Most cardiac cavernous hemangiomas lack

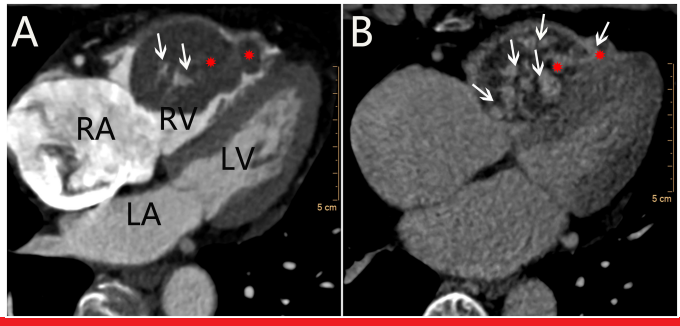

Figure 1. Imaging of a 60-year-old female with a right ventricular cavernous hemangioma. (A) Axial cardiac CT early enhancement reveals 2 lesions within the right ventricle. The lesion displays a gourd-like appearance, with one larger and one smaller part connected together, adherent to the right ventricular free wall (larger: 45 mm × 35 mm, smaller: 15 mm × 10 mm), showing minimal patchy enhancement within the larger lesion. (B) Axial cardiac CT delayed enhancement at 90 s shows diffuse tortuous enhancement within both lesions. LA, left Atrium; LV, left ventricle; RA, right atrium; RV, right ventricle.

E-PAGE ORIGINAL IMAGE

Jie Wang[1]
Dan Li[2]
Ping Hu[3]
Xiao-Jing Ma[3]
Jun Xie[4]

[1]*Department of Radiology, Wuhan Asia Heart Hospital Affiliated Wuhan University of Science and Technology, Wuhan, China*
[2]*Department of Echocardiography, Xi'an Daxing Hospital Affiliated to Yan'an University, Xi'an, Shaanxi, China*
[3]*Department of Echocardiography, Wuhan Asia Heart Hospital Affiliated Wuhan University of Science and Technology, Wuhan, China*
[4]*Department of Endocrinology, Wuhan Asia General Hospital Affiliated Wuhan University of Science and Technology, Wuhan, China*

Corresponding author:
Jun Xie
✉ ww2024art@qq.com

Cite this article as: Wang J, Li D, Hu P, Ma X, Xie J. Rare gourd-shaped cardiac hemangioma: computed tomography imaging characteristics and clinical management. *Anatol J Cardiol.* 2025;29(1):E-3-E-4.

DOI:10.14744/AnatolJCardiol.2024.4860

specific clinical manifestations, and symptoms depend on the size, growth pattern, and attachment site of the tumor.[3] Similar to our case, the patient experienced occasional syncope. Diagnosis of cardiac cavernous hemangioma relies on imaging studies, and this case demonstrated typical CT features with progressive filling on delayed enhancement, making preoperative diagnosis possible. Additionally, CT imaging provided precise information about the relationship between the tumor and the right ventricle, which was useful for surgical planning.

Data Availability Statement: The data that support the findings of this study are available from the corresponding author.

Informed Consent: This report has obtained the patient's informed consent for the publication of their anonymized clinical data.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: This work was funded by the Wuhan Clinical Medical Research Center for Cardiovascular Imaging, and the Open Fund of Imaging Center (Project No. CMRC202302).

Video 1: Imaging of a 60-year-old female with a right ventricular cavernous hemangioma. Left panel: Axial cardiac CT early enhancement reveals a gourd-shaped lesion within the right ventricle, consisting of a larger and smaller part connected together, adherent to the right ventricular free wall. Minimal patchy enhancement is visible within the larger lesion. Right panel: Axial cardiac CT delayed enhancement at 90 s shows a typical diffuse tortuous enhancement within both parts of the lesion.

REFERENCES

1. Ouerghi S, Youssef AB, Ouechtati W, et al. Cardiac cavernous haemangioma. *Heart Lung Circ*. 2011;20(3):197-201. [CrossRef]
2. Vander Salm TJ. Unusual primary tumors of the heart. *Semin Thorac Cardiovasc Surg*. 2000;12(2):89-100. [CrossRef]
3. Gribaa R, Slim M, Neffati E, Boughzela E. Conservative management of cardiac hemangioma for 11 years. *Tex Heart Inst J*. 2015;42(5):450-453. [CrossRef]