



A Rare Blood Cyst with Calcification Located in the Right Atrium

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A 59-year-old woman was referred to and admitted to our clinic for evaluation of an incidentally discovered right atrial intracardiac mass identified during a preoperative examination by transthoracic echocardiography (TTE). Physical examination and laboratory test results were unremarkable. Electrocardiography showed sinus rhythm. TEE revealed a 13 × 12 mm string-of-pearls-like cystic mass with calcifications attached to the orifice of the inferior vena cava (IVC) draining into the right atrium (RA) (Figure 1a and b). Cardiac computed tomography angiography (CTA) demonstrated a cystic low-density mass measuring approximately 12 × 10 mm with punctate calcifications located at the orifice of the IVC in the RA (Figure 1c and d). Delayed contrast-enhanced computed tomography showed no enhancement of the mass (Figure 1e). The mass was successfully excised under cardiopulmonary bypass. Intraoperatively, the soft, blood-filled mass measuring 14 × 12 mm with focal punctate calcifications on its left wall was identified (Figure 1f and g). After excision, the mass rapidly turned black because of hemoglobin deoxygenation (Figure 1f). Histopathological examination revealed that the cyst wall consisted of thin, layered fibrous tissue lined by endothelial cells (Figure 1h and i). The postoperative course was uneventful, and the patient was discharged 7 days after surgery.

Cardiac blood cysts are extremely rare benign cardiac tumors that are typically identified on heart valves in neonates and are only rarely encountered in adults.¹ These cysts are spherical, thin-walled, blood-filled lesions most commonly found on the endocardium of the semilunar or atrioventricular valves.² Although benign, they may be associated with outflow tract obstruction, coronary artery occlusion, valvular stenosis or regurgitation, and embolic events.³ TTE is the most widely used imaging modality for identifying and characterizing blood cysts. TEE and cardiac CTA provide higher spatial resolution for evaluating the relationship between intracardiac masses and adjacent structures and may help differentiate blood cysts from infective or non-infective lesions, such as abscesses,

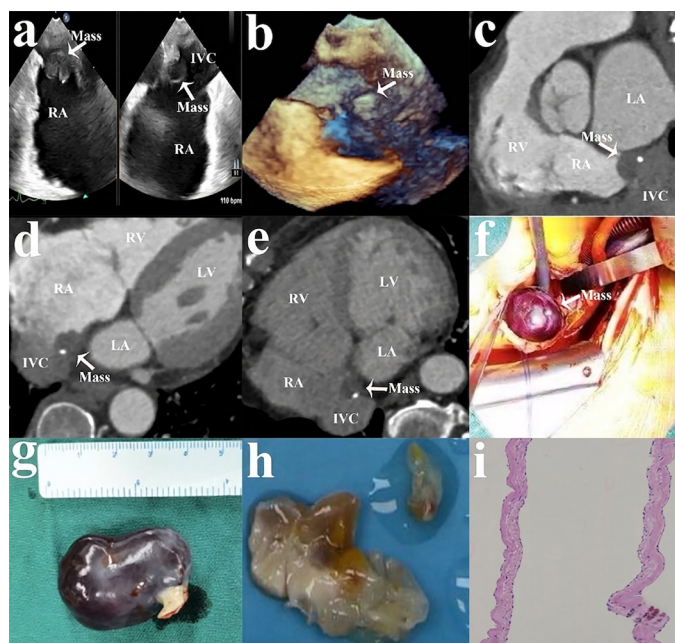


FIG. 1. (a, b) Two-dimensional and three-dimensional-transesophageal echocardiography show a 13 mm × 12 mm cystic mass with calcifications attached to the orifice of the IVC in the RA. (c, d) Cardiac computed tomography angiography demonstrates a cystic, low-density mass measuring approximately 12 mm × 10 mm with punctate calcifications located at the orifice of the IVC in the RA. (e) Delayed contrast-enhanced computed tomography shows no mass enhancement. (f) During surgical procedures, it is found that this mass is a hematoma-like, soft lump. (g) After the operation, the mass quickly turned black due to hemoglobin deoxygenation or tissue necrosis processes. (h, i) Histopathological examination revealed that the blood cystic wall was composed of thin, layered fibrous tissue lined by endothelial cells. RA, right atrium; LA, left atrium; RV, right ventricle; LV, left ventricle; IVC, inferior vena cava.



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hemangiomas, myxomas, vegetations, thrombi, cardiac varices, and hydatid cysts. Cardiac magnetic resonance imaging may also provide valuable information for preoperative assessment and improve diagnostic accuracy.⁴ Surgical resection is generally recommended for symptomatic patients; however, there is currently no consensus regarding the optimal management of asymptomatic cysts.⁵

Informed Consent: Informed consent was obtained from the patient for the publication of this report.

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REFERENCES

1. Ong WSJ, Keh YS, Lai SH, Chang HY, Amanullah MR. A rare giant atrial septal cardiac blood cyst in an adult: a case report. *Eur Heart J Case Rep.* 2024;8:ytae439. [\[CrossRef\]](#)
2. Aweimer A, Bösche LI, Ewers A, El-Battrawy I, Mügge A. Emoji-like structure in the right atrium: identified as blood cyst and removed by interventional venous drainage cannula. *Eur Heart J.* 2023;44:71. [\[CrossRef\]](#)
3. Suero G, Shah M, Hughes-Doichev R. Incidental left atrial blood cyst in a patient undergoing transcatheter aortic valve replacement. *Tex Heart Inst J.* 2015;42:58-60. [\[CrossRef\]](#)
4. Şulea CM, Lakatos B, Kovács A, et al. Blood-filled cyst of the tricuspid valve: multiple cardiac disorders, one surgical case. *J Card Surg.* 2022;37:245-248. [\[CrossRef\]](#)
5. Prasad A, Callahan MJ, Malouf JF. Acquired right atrial blood cyst: a hitherto unrecognized complication of cardiac operation. *J Am Soc Echocardiogr.* 2003;16:377-378. [\[CrossRef\]](#)