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Article type: Clinical image

Received: May 11, 2026.

Revision accepted: June 12, 2026.

Published online: June 26, 2026.

ISSN: 1897-9483

Pol Arch Intern Med.

doi:10.20452/pamw.17326

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Cardiac hemangioma presenting as a potential source of cerebral ischemic lesions

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A 37-year-old patient was referred to a cardiology clinic for evaluation of disseminated ischemic lesions detected on central nervous system magnetic resonance imaging. The patient's past medical history was unremarkable. Transthoracic echocardiography showed no abnormalities. However, transesophageal echocardiography revealed an additional inhomogeneous structure, resembling a cystic lesion measuring 12×21 mm, located within the interatrial septum (Figure 1A-C). No atrial septal shunt was detected. Laboratory tests (complete blood count, ESR, NT-proBNP) and chest X-ray were normal. To further characterize the lesion, cardiac MRI was performed. It demonstrated a well-defined mass (10×13×15 mm) within the interatrial septum, isointense on T1-weighted TSE images and hyperintense on T2-weighted TSE and STIR images (Figure 1D and E). The heart team decided to proceed with surgical treatment. Median sternotomy with incision of the right atrial free wall was performed to access the mass within the interatrial septum. A well-circumscribed lesion with a striking

bluish appearance was excised, and the atrial septum was reconstructed using an autologous pericardial patch (Figure 1F and G). Based on histopathological examination (negative calretinin staining, dilated vascular channels, and areas of hyalinization), along with the above findings, a diagnosis of cardiac hemangioma was established. During follow-up, hematological and rheumatological causes of cerebral ischemic changes were excluded. Given the presence of cerebral ischemic lesions and the suspicion of a cardioembolic source, antithrombotic therapy was considered during the diagnostic work-up. However, due to the absence of atrial fibrillation, intracardiac thrombus, or another established indication for long-term oral anticoagulation, chronic oral anticoagulant therapy was not initiated. Following surgical resection of the tumor and elimination of the presumed embolic source, no indication for long-term anticoagulation was identified. The patient remains stable.

Cardiac hemangioma is a rare, benign tumor accounting for 1–2% of primary cardiac tumors [1]. It is most commonly located in the atria and is usually solitary [2]. Clinical presentation depends on the tumor's location and size [3]. Embolization may occur and could explain the ischemic lesions observed on brain MRI in our patient. Although no thrombus was identified within the lesion, cardiac hemangiomas may serve as a nidus for thrombus formation and embolization; therefore, antithrombotic therapy should be considered on an individual basis until definitive treatment is performed [4]. Diagnosis is based on multimodal imaging and confirmed by histopathological examination. As cardiac hemangiomas arise from abnormal proliferation or dilatation of small arterioles, venules, and capillaries, coronary angiography may be useful for assessing coronary distribution, identifying feeding vessels, and detecting the characteristic tumor blush. The differential diagnosis should include thrombi and other cardiac tumors, such as myxoma. Prognosis is generally favorable, with a low risk of recurrence [5].

Article information

Acknowledgements: The authors would like to thank Dr. Katarzyna Iwanik, Department of Clinical Pathomorphology, Poznan University of Medical Sciences for assistance with the histopathological evaluation and interpretation of the surgical specimen.

Funding: None.

AI statement: Artificial intelligence was not used in the preparation of this manuscript.

Conflict of interest None declared.

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How to cite Bartczak-Rutkowska A, Oko-Sarnowska Z, Rajewska-Tabor J, et al. Cardiac hemangioma presenting as a potential source of cerebral ischemic lesions. *Pol Arch Intern Med.* 2026; XX: 17326. doi:10.20452/pamw.17326

References

- 1 Miao H, Yang W, Zhou M, et al. Atrial hemangioma: a case report and review of the literature. *Ann Thorac Cardiovasc Surg.* 2019; 25: 71-81.
- 2 Li W, Teng P, Xu H, et al. Cardiac hemangioma: a comprehensive analysis of 200 cases. *Ann Thorac Surg.* 2015; 99: 2246-2252.
- 3 Liu Y, Maureira P, Selton-Suty C, et al. Small cardiac hemangioma: a challenge for diagnosis and dilemma for management. *Ann Thorac Surg.* 2014; 97: e11-13.
- 4 Pasquino S, Balucani C, di Bella I, et al. Cardiac hemangioma of the right atrium: a possible cause of cerebellar stroke. *Cerebrovasc Dis.* 2007; 24: 154-155.

5 Bernal-Gallego B, Hernández-Jiménez V, Castillo L, et al. Unexpected diagnosis: large hemangioma in the interatrial septum. J Cardiothorac Surg. 2024; 19: 305.

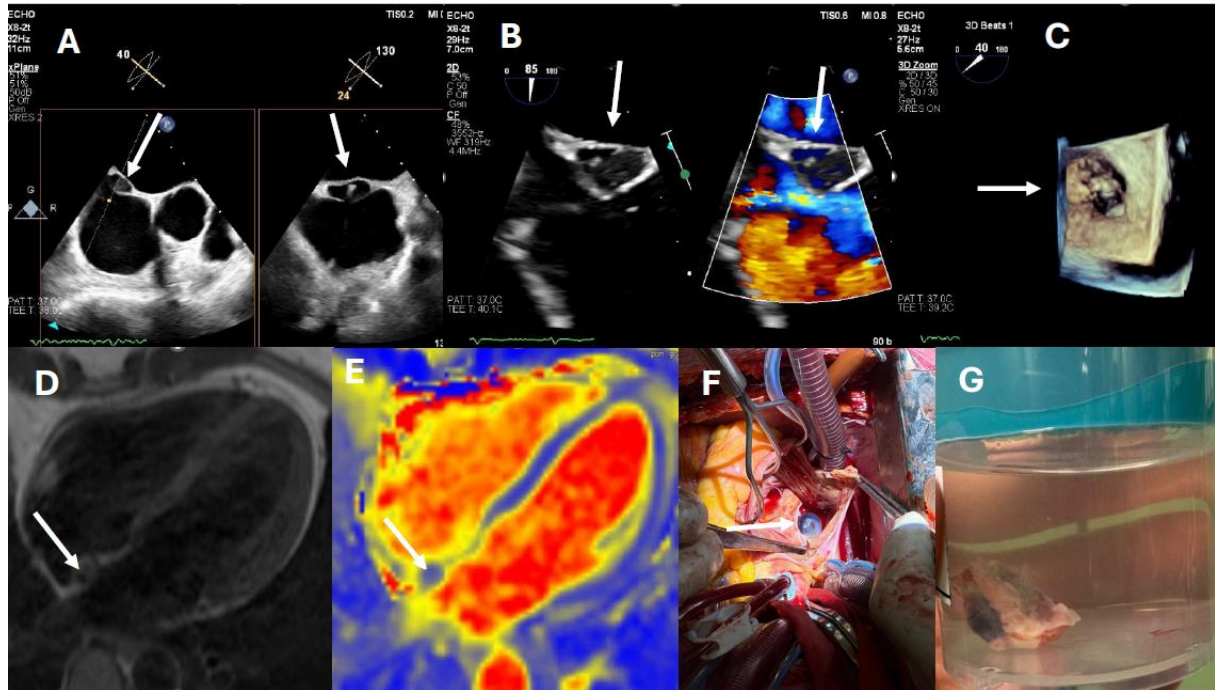


Figure 1 **A** – Transoesophageal echocardiography, x-plane imaging, showing an additional mass (arrow) within the interatrial septum; **B** – transoesophageal echocardiography, zoomed x-plane imaging with color Doppler, showing an additional mass (arrow) within the interatrial septum with no detectable blood flow within the mass; **C** – transoesophageal echocardiography, 3D imaging showing a mass within the interatrial septum; **D** – cardiac magnetic resonance imaging showing an isointense mass on T1-weighted TSE images (arrow); **E** – cardiac magnetic resonance imaging showing a hyperintense mass on T2-weighted STIR images and elevated T2 values on T2 mapping (T2 time = 54 ms; normal: 47 ± 3.4 ms); **F** – intraoperative view of a mass (arrow) within the interatrial septum with a striking bluish appearance; **G** – resected mass specimen submitted for histopathological examination