

Pericardial hemangioma: An extremely rare cardiac tumor

Novica Kalinic^{1,2*}, Tanja Cvjetkovic Tomanic^{1*}, Aleksandar Redzek^{3,4}, Nikola Sobot^{1,2}, Ranko Skrbic², Bosko Radomir¹, Ilija Bjeljac³, Zivojin Jonjev^{2,3}, Stefan Maric^{1,2}, Iva Bosic Miljevic^{3,4}, Ranko Zdravkovic^{3,4}

¹Clinic for Cardiac Surgery, University Clinical Center of the Republic of Srpska, Banja Luka, Bosnia and Herzegovina

²Faculty of Medicine, University of Banja Luka, Banja Luka, Bosnia and Herzegovina

³Institute of Cardiovascular Diseases of Vojvodina, Sremska Kamenica, Serbia

⁴Faculty of Medicine, University of Novi Sad, Novi Sad, Serbia

*Both authors equally contributed to the study.

Correspondence to:

Ranko Zdravkovic, MD,
Faculty of Medicine,
University of Novi Sad,
Hajduk Veljkova 3, 21000 Novi Sad,
Serbia,
phone: +38 12 142 06 77,
e-mail:
ranko.zdravkovic@mf.uns.ac.rs
Copyright by the Author(s), 2024
DOI: 10.33963/v.kp.98422

Received:

October 27, 2023

Accepted:

December 4, 2023

Early publication date:

December 12, 2023

We present a case of a 52-year-old male patient referred to a cardiologist due to increased fatigue over the past few months. The patient mentioned only arterial hypertension as a comorbidity. We observed a tumoral mass in the right atrium on transthoracic echocardiography. Transesophageal echocardiography (TEE) confirmed a tumor, characteristic of myxoma, in the view of the right atrium, measuring 35 × 31 mm, attached to the free wall of the right atrium above the entrance of the inferior vena cava (Figure 1A). The complete valvular apparatus was without pathological changes. Coronary angiography was normal. The Heart Team recommended surgical intervention.

The operation was performed under general endotracheal anesthesia through a medial sternotomy. Pericardiotomy showed normocardia, a heart of regular size and systolic function, with a visible solid, oval, clearly circumscribed epicardial tumor mass on the free lateral wall of the right atrium and right ventricle (Figure 1B). A complete excision of the tumor was performed (Supplementary material, Video S1). The formation was dark red in color, oval, with a vermiform consistency (Figure 1C).

The postoperative course was uneventful. Control echocardiography showed preserved systolic and diastolic functions of the heart without pericardial effusion. Pathohistological analysis showed that it was a benign tumor, made up of many distended vascular spaces of the capillary type, whose inner walls were lined with thin, flattened endothelium, and the lumens are filled with blood. Some capil-

lary blood vessels have very thickened walls, and the lumens were empty. Dense clusters of angioblasts without central lumens were focally visible. The described histological picture corresponded to a capillary hemangioma (Figure 1D). The patient was discharged on the sixth postoperative day in good general condition.

Primary cardiac tumors are rare, with an incidence rate of 0.0017%–0.019% in the autopsy series [1]. Most often, these are benign tumors, mainly myxomas, fibroelastomas, and lipomas. Cardiac hemangiomas are rare cardiac tumors, with an incidence of less than 2% [2]. Cardiac hemangioma can originate from any of the three cardiac layers, either the endocardium, myocardium, or epicardium [3]. The epicardium is the rarest site of origin for these tumors. So far, only 13 cases of pericardial hemangioma have been described in the world literature [4]. Although the first pericardial hemangioma was described in 1963, the remaining 12 cases were reported in the last 20 years, which leads to the conclusion that the diagnosis of these tumors has been improved by better diagnostic tools. In our case, TEE showed a tumoral mass in the right atrium, but it was actually in the pericardial space, which confirms that TEE cannot determine the exact location of the tumor with absolute certainty. Clinical presentation can be different depending on the size and localization of the tumor. Some of the cases described so far were asymptomatic, and most were accompanied by dyspnea, syncope, and chest pain [4]. It is recommended that surgical excision be performed as soon as possible.

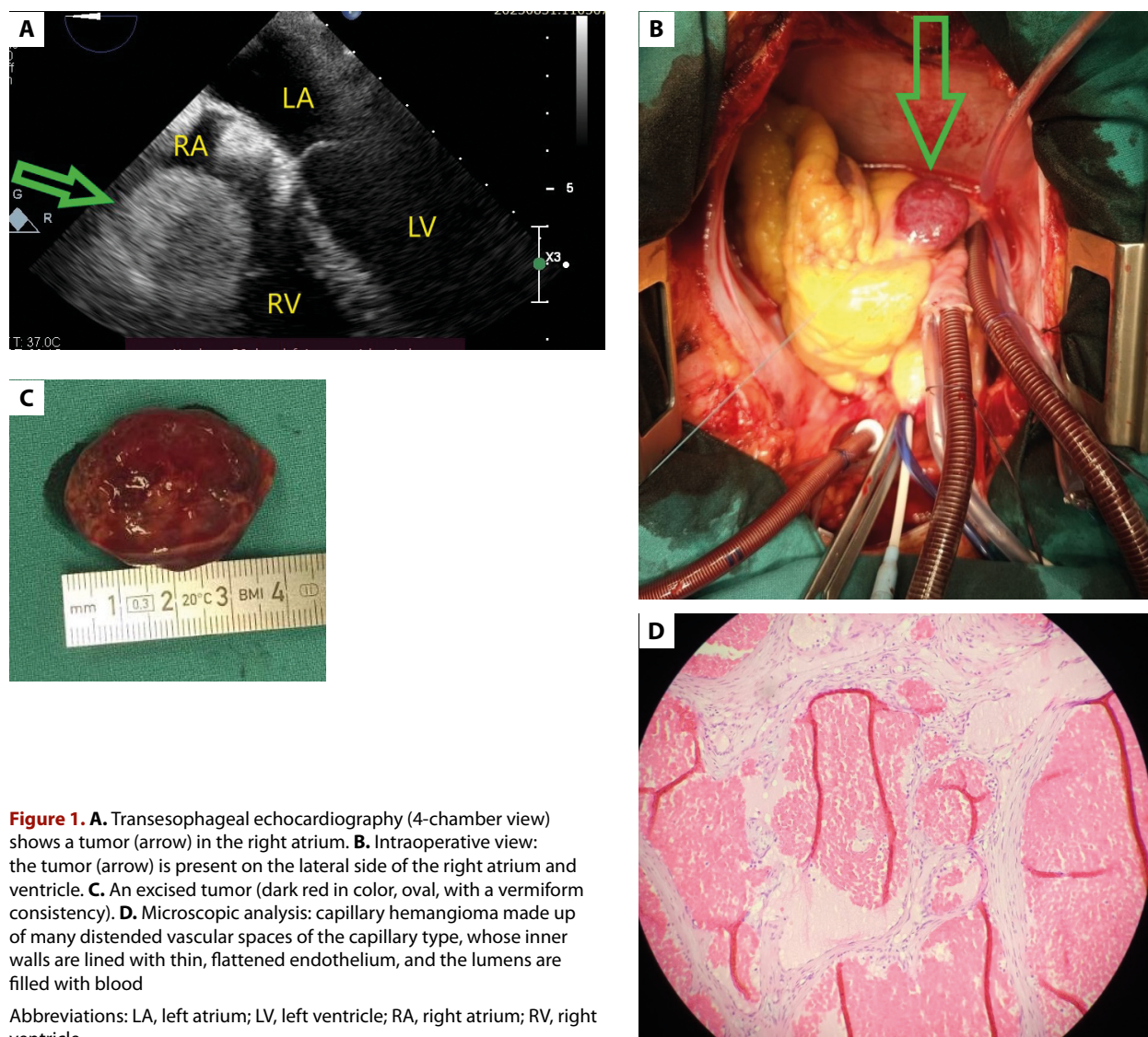


Figure 1. **A.** Transesophageal echocardiography (4-chamber view) shows a tumor (arrow) in the right atrium. **B.** Intraoperative view: the tumor (arrow) is present on the lateral side of the right atrium and ventricle. **C.** An excised tumor (dark red in color, oval, with a vermiform consistency). **D.** Microscopic analysis: capillary hemangioma made up of many distended vascular spaces of the capillary type, whose inner walls are lined with thin, flattened endothelium, and the lumens are filled with blood

Abbreviations: LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle

Supplementary material

Supplementary material is available at https://journals.viamedica.pl/kardiologia_polska.

Article information

Conflict of interest: None declared.

Funding: None.

Open access: This article is available in open access under Creative Commons Attribution-Non-Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0) license, which allows downloading and sharing articles with others as long as they credit the authors and the publisher, but without permission to change them in any way or use them commercially. For commercial use, please contact the journal office at kardiologiapolska@ptkardio.pl

REFERENCES

1. Rosic M, Zdravkovic R, Komazec N, et al. An unusual case of localization of papillary fibroelastoma on the upstream side of the tricuspid valve. *Kardiol Pol.* 2023; 81(4): 405–407, doi: [10.33963/KP.a2023.0035](https://doi.org/10.33963/KP.a2023.0035), indexed in Pubmed: 36739650.
2. Jonjev ZS, Torbica V, Vučković D, et al. Cavernous hemangioma of the heart. *Herz.* 2014; 39(6): 716–717, doi: [10.1007/s00059-013-3854-7](https://doi.org/10.1007/s00059-013-3854-7), indexed in Pubmed: 23784365.
3. Abuharb MY, Bian XM, He J. Epicardial cardiac cavernous Haemangioma — a case report. *BMC Cardiovasc Disord.* 2019; 19(1): 179, doi: [10.1186/s12872-019-1156-6](https://doi.org/10.1186/s12872-019-1156-6), indexed in Pubmed: 31357944.
4. Seitz A, Ong P, Backes M, et al. Chronic pericardial effusion in the setting of pericardial capillary haemangioma: a case report and review of the literature. *Eur Heart J Case Rep.* 2018; 2(1): yty024, doi: [10.1093/ehjcr/yty024](https://doi.org/10.1093/ehjcr/yty024), indexed in Pubmed: 31020103.