



Cardiac MRI of a Left Ventricular Intramyocardial Suspected Hydatid Cyst

MULTIMODALITY
MUSEUM IMAGE

NEDA NILFOROUSHAN, MD

HASSAN SALEEM, MD

MUHAMMAD UMAIR, MD 

**Author affiliations can be found in the back matter of this article*

HOUSTON
Methodist
DEBAKEY HEART &
VASCULAR CENTER

ABSTRACT

A 19-year-old man with chest pain underwent cardiac magnetic resonance imaging (MRI), which identified a multilobulated cyst with internal septations located in the lateral left ventricular myocardium, consistent with a hydatid cyst. High-resolution cine and late gadolinium enhancement imaging demonstrated its structure and myocardial involvement. This case shows the capability of cardiac MRI in diagnosing rare cardiopericardial hydatid disease.

CORRESPONDING AUTHOR:

Muhammad Umair, MD

Department of Radiology,
Columbia University Irving
Medical Center, New York, New
York, US

mu2331@cumc.columbia.edu

KEYWORDS:

hydatid cyst; cardiac MRI;
cardiopericardial hydatid cyst

TO CITE THIS ARTICLE:

Nilforoushan N, Saleem H,
Umair M. Cardiac MRI of a Left
Ventricular Intramyocardial
Suspected Hydatid Cyst.
Methodist DeBakey Cardiovasc
J. 2025;21(1):127-131. doi:
[10.14797/mdcvj.1723](https://doi.org/10.14797/mdcvj.1723)

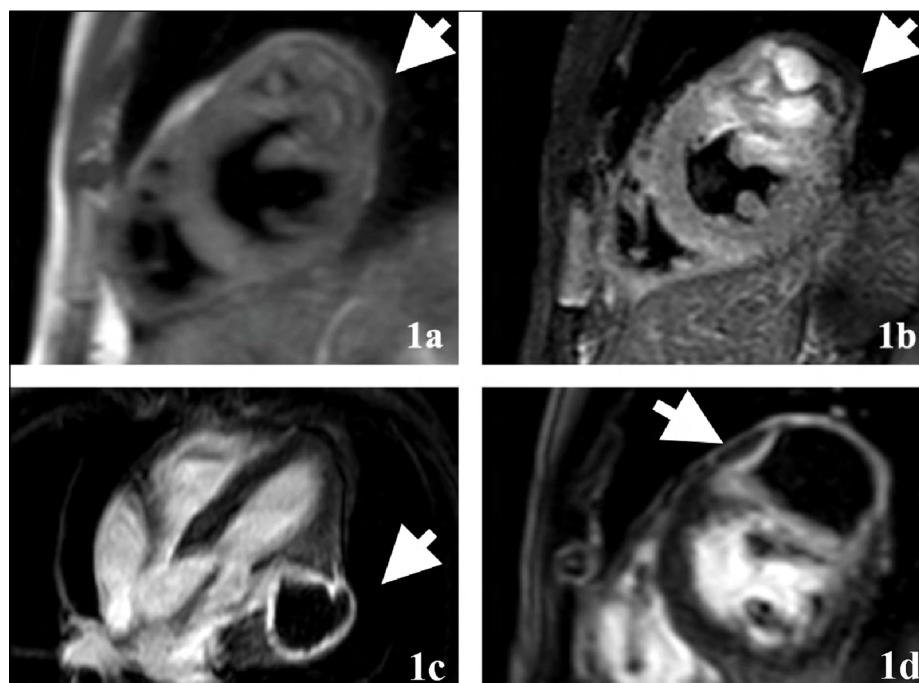


Figure 1 Multicystic lesion in the lateral left ventricular wall: morphology and late gadolinium enhancement findings. **(1a)** Short-axis double inversion recovery dark blood image at basal to mid-cavity level; **(1b)** short-axis T2-weighted short-tau inversion recovery image at the basal to mid-cavity level. A multicystic structure is noted with thick septations and fluid-filled cystic structures in the basal-mid lateral/ anterolateral segment of the left ventricle bulging outwards towards the pericardial margin as well as mildly towards the cavity. Mild cyst wall enhancement noted on the late gadolinium enhancement (LGE) imaging; **(1c)** 4-chamber phase-sensitive inversion recovery (PSIR) LGE and **(1d)** short-axis PSIR LGE.

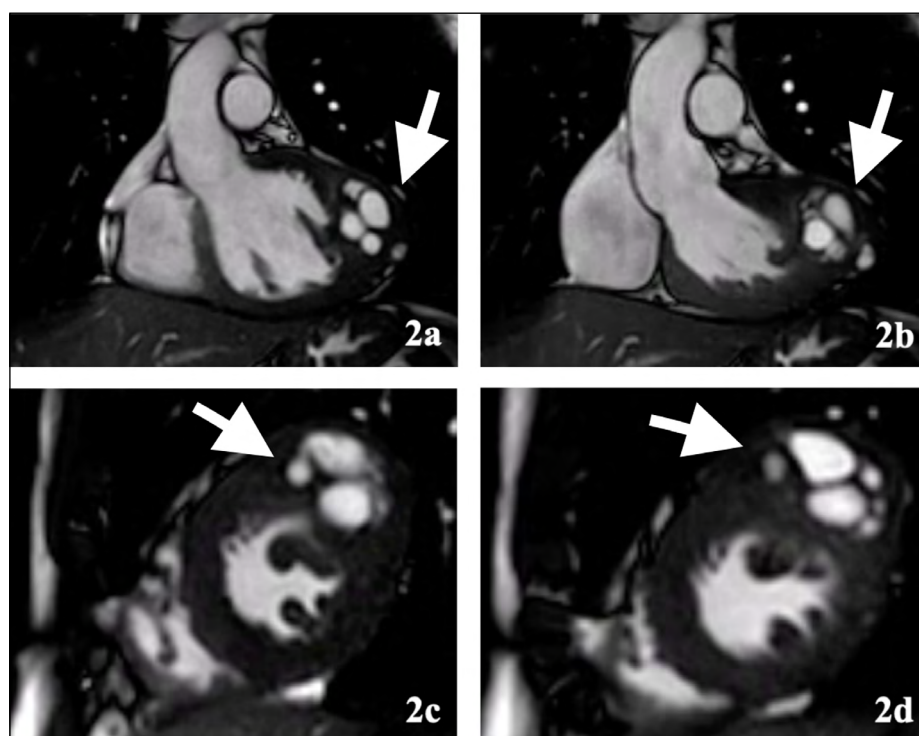
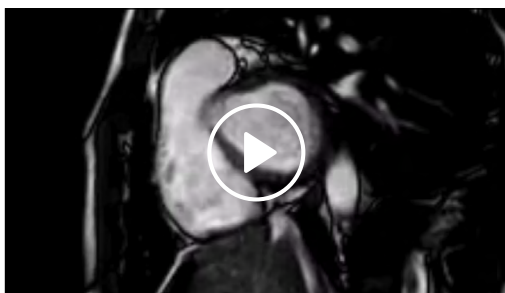


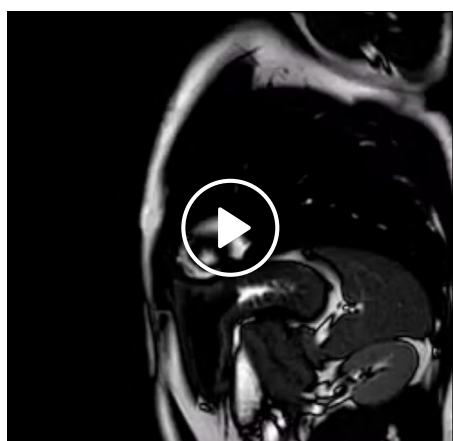
Figure 2 Cine cardiac magnetic resonance imaging depicts dynamic behavior of the multicystic lesion. **(2a)** Diastolic and **(2b)** systolic images from cine steady-state free precession-based left ventricular outflow tract; **(2c)** short-axis cine images at mid-cavity level and **(2d)** at basal to mid-cavity level, again confirming the multicystic structure in the basal to mid lateral/anterolateral wall of the left ventricle myocardium.

A 19-year-old nonsmoking male from rural Pakistan presented with a 1-month history of precordial chest pain, nonproductive cough, and indigestion. Laboratory evaluation was notable for mild eosinophilia (8.2%; reference range: 1–6%) with otherwise unremarkable findings. Transthoracic echocardiography and contrast-enhanced cardiothoracic computed tomography (CT) performed at the referring center demonstrated a cystic mass in the lateral wall of the left ventricle (LV); however, these images were unavailable due to resource limitations. Cardiac magnetic resonance imaging (MRI) showed a multilobulated, thick-walled cystic lesion centered in the basal to mid-lateral LV myocardium, with internal septations, hyperintense T2 signal, and mild peripheral enhancement on late gadolinium enhancement imaging. Findings were consistent with a cardiac hydatid cyst (Figures 1, 2, Videos 1–10). The patient did not return for further diagnostic testing or treatment.

Hydatid disease most commonly affects the liver (68.8–80%) and lungs (10–22.4%), with cardiac involvement seen in only 0.02% to 1.1% of cases.¹ Cardiopericardial hydatid cysts are often asymptomatic but may present with nonspecific symptoms such as chest pain, exertional dyspnea, or palpitations, particularly in larger or septally located lesions.² Echocardiography is the initial and preferred modality for diagnosing cardiac hydatid cysts, while CT and MRI offer superior delineation of cyst morphology and anatomical relationships, aiding in preoperative assessment.^{3,4}



Video 1 Annular plane; see also at <https://vimeo.com/1140625664>.



Video 2 Apex 1; see also at <https://vimeo.com/1140625673>.



Video 3 Apex 2; see also at <https://vimeo.com/1140625689>.



Video 4 Basal 1; see also at <https://vimeo.com/1140625693>.



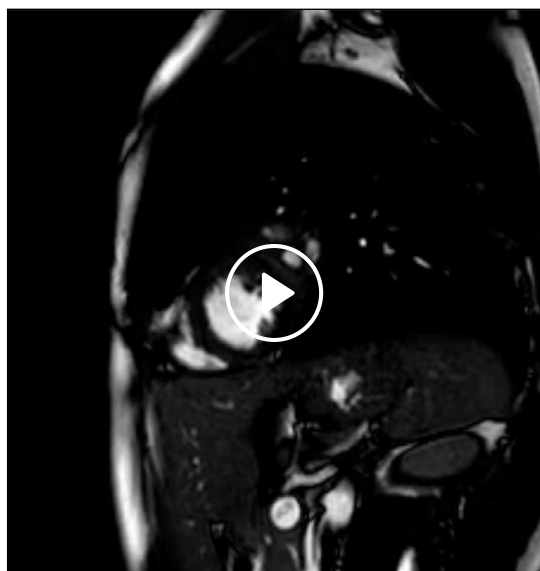
Video 5 Basal 2; see also at <https://vimeo.com/1140625707>.



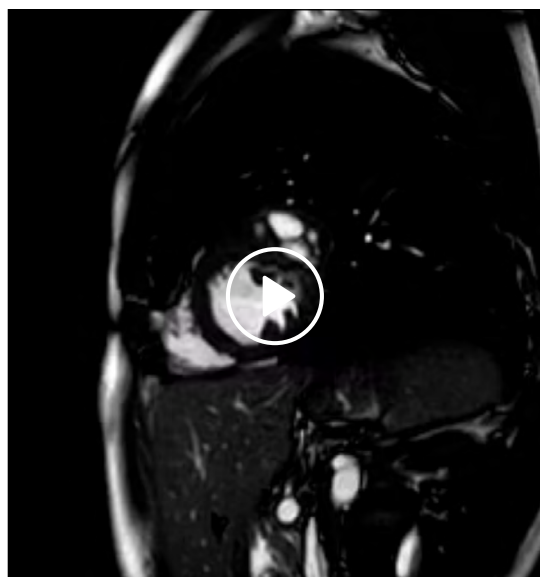
Video 6 Basal 3; see also at <https://vimeo.com/1140625720>.



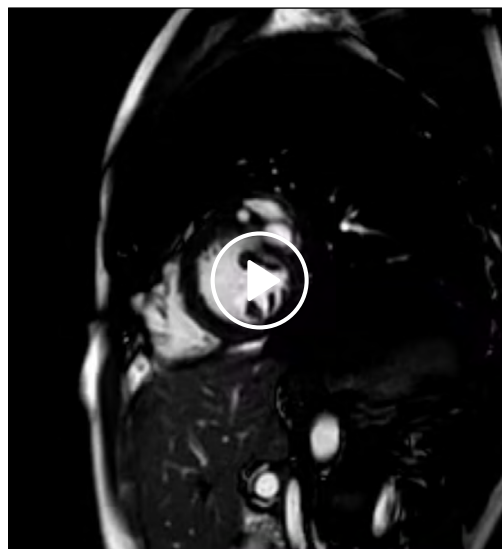
Video 7 Basal most; see also at <https://vimeo.com/1140625723>.



Video 8 Mid 1; see also at <https://vimeo.com/1140625729>.



Video 9 Mid 2; see also at <https://vimeo.com/1140625737>.



Video 10 Mid 3; see also at <https://vimeo.com/1140625740>.

COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Neda Nilforoushan, MD

Department of Radiology, Columbia University Irving Medical Center, New York, New York, US

Hassan Saleem, MD

Islamabad Diagnostic Center, Islamabad, Pakistan

Muhammad Umair, MD  orcid.org/0000-0001-6113-8335

Department of Radiology, Columbia University Irving Medical Center, New York, New York, US

REFERENCES

1. **Salamone G, Licari L, Randisi B**, et al. Uncommon localizations of hydatid cyst. Review of the literature. *G Chir*. 2016 Jul-Aug;37(4):180-185. doi: [10.11138/gchir/2016.37.4.180](https://doi.org/10.11138/gchir/2016.37.4.180)
2. **Oraha AY, Faqe DA, Kadoura M, Kakamad FH, Yaldo FF, Aziz SQ**. Cardiac hydatid cysts; presentation and management. A case series. *Ann Med Surg*. 2018 Apr 7;30:18-21. doi: [10.1016/j.amsu.2018.04.001](https://doi.org/10.1016/j.amsu.2018.04.001)
3. **Fennira S, Kamoun S, Besbes B**, et al. Cardiac hydatid cyst in the interventricular septum: a literature review. *Int J Infect Dis*. 2019 Nov;88:120-126. doi: [10.1016/j.ijid.2019.09.004](https://doi.org/10.1016/j.ijid.2019.09.004)
4. **Bajdechi M, Manolache D, Tudor A, Orghidan M, Gurghean A**. Cardiac hydatid cysts in a young man: A case report and a literature review. *ExpTher Med*. 2022 Jul 1;24(3):550. doi: [10.3892/etm.2022.11487](https://doi.org/10.3892/etm.2022.11487)

TO CITE THIS ARTICLE:

Nilforoushan N, Saleem H, Umair M. Cardiac MRI of a Left Ventricular Intramyocardial Suspected Hydatid Cyst. *Methodist DeBakey Cardiovasc J*. 2025;21(1):127-131. doi: [10.14797/mdcvj.1723](https://doi.org/10.14797/mdcvj.1723)

Submitted: 09 October 2025 **Accepted:** 11 November 2025 **Published:** 17 December 2025

COPYRIGHT:

© 2025 The Author(s). This is an open-access article distributed under the terms of the Attribution-NonCommercial 4.0 International (CC BY-NC 4.0), which permits unrestricted use, distribution, and reproduction in any noncommercial medium, provided the original author and source are credited. See <https://creativecommons.org/licenses/by-nc/4.0/>.

Methodist DeBakey Cardiovascular Journal is a peer-reviewed open access journal published by Houston Methodist DeBakey Heart & Vascular Center.

