



Cardiac Hydatid Cyst: A Rare but Potentially Life-Threatening Presentation of Hydatid Disease

MULTIMODALITY
MUSEUM IMAGES

KANHAI LALANI, MD, DM 

M. SUDHAKAR RAO, MD, DM 

PADMAKUMAR R., MD, DM 

PANKTI PARIKH, MD 

ASHWINI M. V., MD 

UJWAL TEJA DHULIPALLA, MD 

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

HOUSTON
Methodist
DEBAKEY HEART &
VASCULAR CENTER

ABSTRACT

Cardiac echinococcosis is a rare and severe manifestation of hydatid disease. It is caused by parasitic infestation by the *Echinococcus* species and can lead to life-threatening complications. Diagnosis is difficult due to nonspecific symptoms, but echocardiography is a highly sensitive diagnostic method. Albendazole treatment is effective in managing these cysts and can be an alternative to surgery. A patient with multiple cardiac hydatid cysts was successfully treated with albendazole, highlighting the importance of prompt diagnosis and treatment to prevent life-threatening complications.

CORRESPONDING AUTHOR:

M. Sudhakar Rao, MD, DM

Kasturba Medical College,
Manipal, Manipal Academy
of Higher Education, Manipal,
Karnataka, India

msudhakar88@gmail.com

KEYWORDS:

hydatid disease; cardiac hydatid cyst; *Echinococcus* species; albendazole; echinococcosis; hydatid cyst

TO CITE THIS ARTICLE:

Lalani K, Rao MS, Padmakumar R, Parikh P, Ashwini MV, teja Dhulipalla U. Cardiac Hydatid Cyst: A Rare but Potentially Life-Threatening Presentation of Hydatid Disease. *Methodist DeBaKey Cardiovasc J*. 2024;20(2):124-127. doi: 10.14797/mdcvj.1333

DESCRIPTION

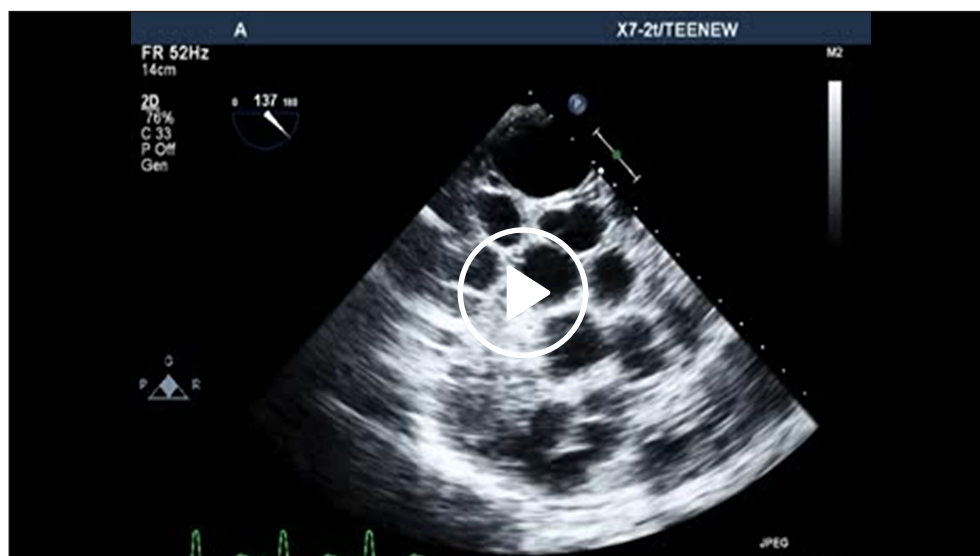
Hydatid disease is caused by the *Echinococcus* parasite and is commonly found in sheepherding regions such as India. Humans can become infected by inadvertently ingesting tapeworm eggs from contaminated food and water.^{1,2} The disease mainly affects the liver and lungs, with cardiac involvement observed in less than 2% of patients. Hydatid cysts are predominantly found in the left ventricle (55-60%), followed by the right ventricle (10-15%), pericardium (7%), pulmonary artery (6-7%), left atrium (5%), right atrium (3-4%), and interventricular septum (4%).^{1,2} Most patients remain asymptomatic, but 10% may present with clinical symptoms depending on the cyst's location, size, and expansion. Complications may include systemic or pulmonary embolism, pericarditis, valvular obstruction or regurgitation, and anaphylaxis.^{3,4} Cardiac hydatid cysts are challenging to diagnose due to nonspecific symptoms and electrocardiographic (ECG) findings. Echocardiography is a reliable diagnostic modality for cardiac hydatid cysts.^{1,3,4} A combined surgical resection and concurrent albendazole treatment yield excellent outcomes.^{1,2}

A man in his sixties presented with chest discomfort for several weeks. His ECG showed probable ischemic T inversions in inferolateral leads, and coronary angiography revealed normal epicardial coronaries with slow flow. Echocardiography revealed multiple echolucent cysts, with septa occupying the entire left atrium (LA) and left ventricle (LV), along with a normal ejection fraction. Transthoracic echocardiography images were not included

due to an unclear window and poor image quality resulting from the patient's obesity. Transesophageal echocardiography showed a loculated mass in the LV myocardium measuring 34 × 35 mm with an extension of about 52 × 42 mm, compressing the LA (Figure 1, Video 1). Positive serology results for echinococcosis were obtained. Magnetic resonance imaging confirmed a large cystic mass with septa in the left atrium and LV, suggestive of a cardiac hydatid cyst (Figure 2, Video 2). The patient opted for albendazole (400 mg twice a day) for 1 year instead of surgery. After a year, cysts disappeared completely, demonstrating albendazole as a viable alternative for surgery.



Figure 1 A transesophageal echocardiogram reveals the presence of numerous hydatid cysts entirely filling the left atrium and left ventricle cavity.



Video 1 A transesophageal echocardiogram reveals the presence of numerous hydatid cysts entirely filling the left atrium and left ventricle cavity; see also at <https://youtu.be/QBTMjZTEpc8>.

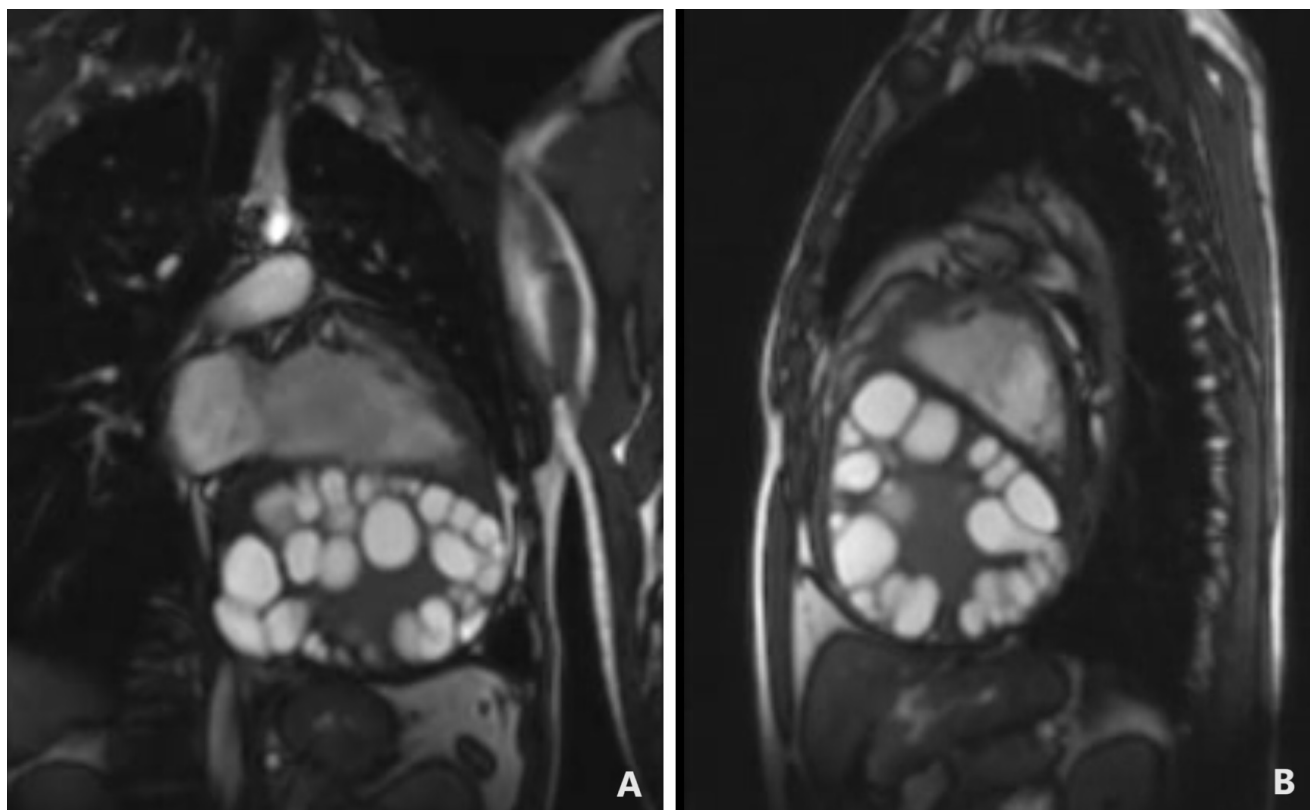
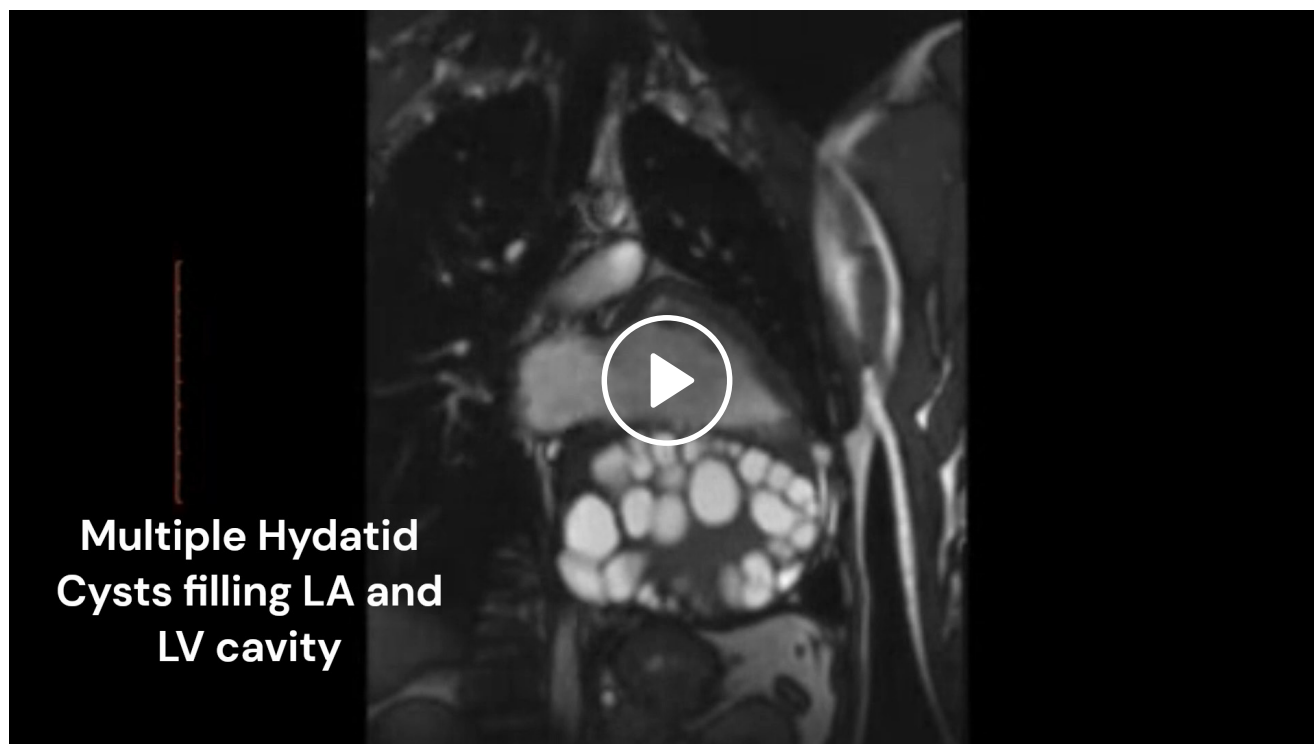


Figure 2 Cardiac magnetic resonance imaging through static images of a cine loop. **(A)** The sagittal section features a four-chamber view, while **(B)** displays a short-axis view. Both images depict multiple hypointense ring-shaped thick-walled hydatid cysts occupying the entire cavity of the left atrium and left ventricle.



Video 2 Cardiac magnetic resonance imaging, cine loop. The sagittal section and short-axis view showed multiple hypointense ring-shaped thick-walled hydatid cysts occupying the entire cavity of the left atrium and left ventricle; see also at https://youtu.be/zaIBK_WH57M. LA: left atrium; LV: left ventricle

FUNDING INFORMATION

No financial support is received for the research, authorship, and/or publication of this article.

COMPETING INTERESTS


The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Kanhai Lalani, MD, DM  orcid.org/0000-0001-7399-4630
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

M. Sudhakar Rao, MD, DM  orcid.org/0000-0001-9439-3703
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

Padmakumar R., MD, DM  orcid.org/0000-0001-8121-3304
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

Pankti Parikh, MD  orcid.org/0000-0001-8121-3304
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

Ashwini M. V., MD  orcid.org/0000-0001-7974-2151
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

Ujwal teja Dhulipalla, MD  orcid.org/0009-0001-8933-6402
Kasturba Medical College, Manipal, Manipal Academy of Higher Education, Manipal, Karnataka, India

REFERENCES

1. **Banerji I. Cardiac Hydatid Cyst.** J Indian Academy Echo Cardiovasc Imaging. 2020 May 1;4(2):196-9. doi: [10.4103/jiae.jiae_24_19](https://doi.org/10.4103/jiae.jiae_24_19)
2. **Parikh F.** Echinococcosis--cut to cure but what about control? J Assoc Physicians India. 2012 Jul;60:9-10. PMID: 23405533
3. **Klodos E, Roger VL, Miller FA, Utz JP, Danielson GK, Edwards WD.** Cardiac echinococcosis: case report of unusual echocardiographic appearance. Mayo Clin Proc. 1995 Jul;70(7):657-61. doi: [10.4065/70.7.657](https://doi.org/10.4065/70.7.657)
4. **Barbetseas J, Lambrou S, Aggeli C,** et al. Cardiac hydatid cysts: echocardiographic findings. J Clin Ultrasound. 2005 May;33(4):201-5. doi: [10.1002/jcu.20108](https://doi.org/10.1002/jcu.20108)

TO CITE THIS ARTICLE:

Lalani K, Rao MS, Padmakumar R, Parikh P, Ashwini MV, teja Dhulipalla U. Cardiac Hydatid Cyst: A Rare but Potentially Life-Threatening Presentation of Hydatid Disease. *Methodist DeBakey Cardiovasc J*. 2024;20(2):124-127. doi: [10.14797/mdcvj.1333](https://doi.org/10.14797/mdcvj.1333)

Submitted: 30 December 2023

Accepted: 12 January 2024

Published: 14 March 2024

COPYRIGHT:

© 2024 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.