AUCTORES
Globalize your Research

Journal of Clinical Research and Reports

Baldassare Mondello *

Open Access

Case Report

An Incidental Finding of a Giant Pericardial Cyst Successful Resected by Video-Assisted Thoracoscopic Surgery (VATS): A Case Report

Baldassare Mondello[1]*, Massimino Messinò[1,2], Abdal Rahman Abu Farhan[1,3], Eugenio Giuseppe Vadalà[4], Antonino Loddo[4], Rosalba Squillace[4], Francesca Mazzeo[5], Francesco Luca Plutino[1], Lara Natoli[6], Carmela Tebala[6], Francesco Messina[6], and Pietro Arciello[6]

[1]Thoracic Surgery Unit, Grande Ospedale Metropolitano (G.O.M.) "Bianchi Melacrino Morelli", Reggio Calabria, Italy

[2]Thoracic Surgery Unit, Università degli Studi della Campania "Luigi Vanvitelli", Napoli, Italy

[3]Department of Thoracic Surgery, Magna Graecia University of Catanzaro, Catanzaro, Italy

[4]Department of Anestesiology and Intensive Care, Grande Ospedale Metropolitano (G.O.M.) "Bianchi Melacrino Morelli", Reggio Calabria, Italy

[5]Pathological Anatomy Unit, Grande Ospedale Metropolitano (G.O.M.) "Bianchi Melacrino Morelli", Reggio Calabria, Italy

[6]Radiology Unit, Grande Ospedale Metropolitano (G.O.M.) "Bianchi Melacrino Morelli", Reggio Calabria, Italy

***Corresponding Author:** Baldassare Mondello, Director of Thoracic Surgery Unit, Grande Ospedale Metropolitano of Reggio Calabria, Italy.

Received date: February 12, 2026; **Accepted date:** February 20, 2026; **Published date:** March 02, 2026

Citation: Baldassare Mondello, Massimino Messinò, Abdal R A Farhan, Eugenio G Vadalà, Antonino Loddo, et al (2026), An incidental Finding of a Giant Pericardial Cyst Successful Resected by Video-Assisted thoracoscopic surgery (VATS): A Case Report, *J Clinical Research and Reports*, 23(3); **DOI:**10.31579/2690-1919/613

Abstract

Pericardial cysts are rare benign mass of the mediastinum. They are frequently asymptomatic and diagnosed incidentally, although some patients may present with persistent cough, chest pain and dyspnoea. A conservative approach with radiological or echocardiographic follow-up may be indicated for small and asymptomatic pericardial cysts, while for symptomatic, giant or rapidly enlarging pericardial cysts, surgery is recommended, with sternotomy, thoracotomy or video-assisted thoracic surgery (VATS); surgical treatment include cyst resection, cyst aspiration, and sclerosis after aspiration.

We report a case of a 64-year-old lady, who presented with clinical features suggestive of intestinal occlusion due to volvulus, with an incidental finding of a giant pericardial cyst in the right cardiophrenic angle, measuring approximately 10.9 cm x 9.7 cm x 9.8 cm. The patient underwent VATS and the cyst was completely excised, after the initial intra-operative needle aspiration to reduce the size and facilitate its removal. No complications were observed; the patient was discharged on the sixth postoperative day. An abdominal CT scan extended to the chest, performed 27 months after surgery for recurrent intestinal obstruction, revealed no recurrence of the cyst.

Pericardial cysts are usually benign, but they can cause compression on adjacent structures such as the heart or lungs and may be complicated by inflammation, infection, or rupture. Therefore, if symptomatic, rapidly growing, or giant, pericardial cysts require surgical intervention. Initial intraoperative needle aspiration facilitates VATS resection of giant pericardial cysts.

Key Words: Giant Pericardial Cysts; CT scan; Video-assisted thoracoscopic surgery (VATS)

Introduction

Pericardial cysts are rare, benign mediastinal masses [1], which represent 6–7% of masses in the mediastinum [2], with an incidence of 1: 100 000 [3]. Most case are congenital due to an aberrancy in the formation of coelomic cavities [4]; howerer, they can be a sequela of cardiac trauma, or pericarditis or other inflammatory/infectious diseases [5]. Histologically, the wall of the cyst is composed of fibrocollagenous connective tissue and a single layer of mesothelial cells, and usually contains serous fluid [6]. Pericardial cysts are located more frequently in

the right cardiophrenic angle (70% of cases), more rarely in the left cardiophrenic angle (22% of cases), very rarely in the posterior or anterior superior mediastinum (8% of cases) [7]. In most cases pericardial cysts are asymptomatic and diagnosed incidentally [8]; when present, symptoms are dyspnea, persistent cough, chest pain, secondary to compression on the heart or lung, especially in the case of giant cysts [9];

very rarely life-threatening complications such as pneumothorax, cysts infection or rupture and cardiac tamponade have been reported [4]. A conservative approach with radiological or echocardiographic follow-up may be indicated for small and asymptomatic pericardial cysts, while for symptomatic, giant or rapidly enlarging pericardial cysts, surgery is recommended [2,4]. We report a case of a 64-year-old lady, that we have submitted to successful VATS resection of a giant pericardial cyst incidentally diagnosed on an abdominal TC scan performed to investigate an unrelated disease.

Presentation

We report a case of a 64-year-old lady, who presented with clinical features suggestive of intestinal occlusion due to volvulus, with an incidental finding of a giant pericardial cyst in the right cardiophrenic angle, measuring approximately 10.9 cm x 9.7 cm x 9.8 cm (Figure. 1).

Figure 1. Incidental finding of a giant pericardial cyst (yellow arrow)

The large pericardial cyst was not clearly dissociable from the pericardium (Figure. 2).

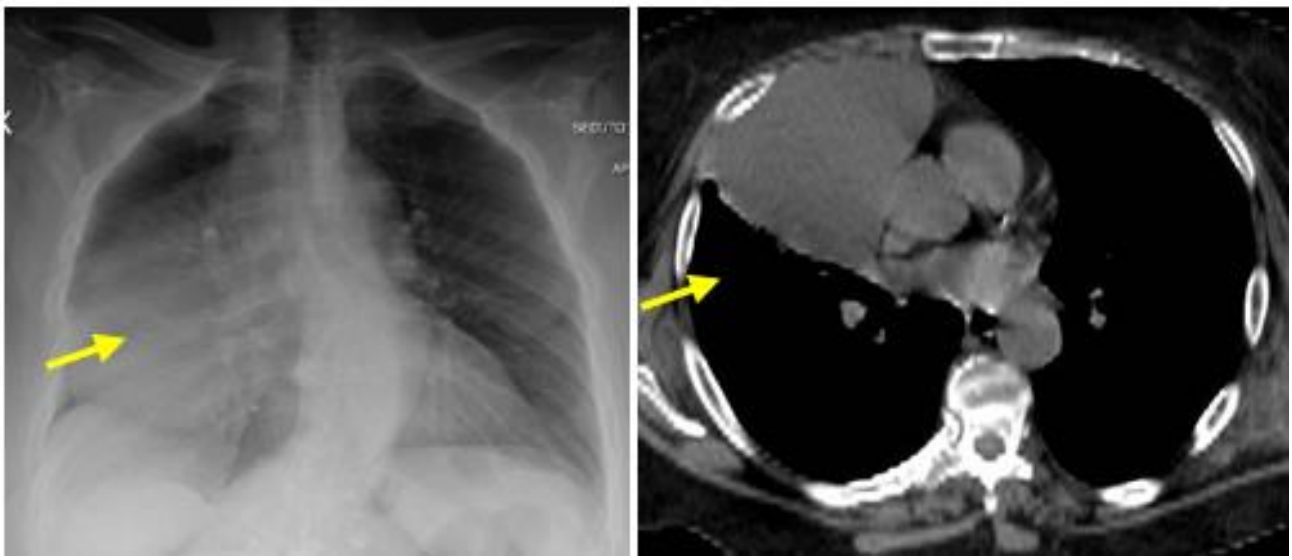

Figure 2. The large pericardial cyst was not clearly dissociable from the pericardium (yellow arrow)

The patient underwent emergency surgery performed by general surgeons, involving adhesiolysis and debridement of the strangulated intestinal loops, and was subsequently referred to us for observation. Spirometry showed normal respiratory function, and echocardiography ruled out compression on the heart and pericardial effusion. Due to considerable size of the cyst the patient underwent two-port VATS, under general anesthesia using a 35 French left-sided double-lumen endotracheal tube. Surgical access was obtained via a 2 cm skin incision through the fifth intercostal space (5 th ICS) on the anterior axillary line,

and at 7 th ICS on the mid-axillary line. A giant, spheroidal mediastinal neoformation with a vascularized surface is detected (Figure. 3).

Figure 3. VATS reveals a giant, spheroidal mediastinal neoformation with a vascularized surface

An intra-operative needle aspiration is performed to reduce the size and facilitate its removal (Figure. 4).

Figure 4. An intra-operative needle aspiration is performed

700 ml of serous fluid is aspirated, resulting in the cyst being deflated (Figure. 5).

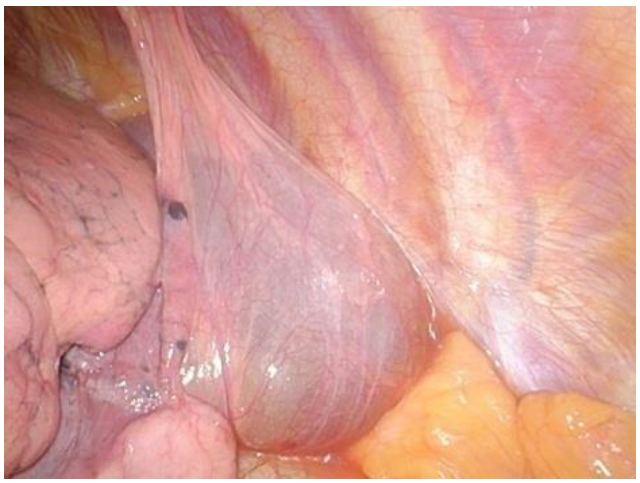

Figure 5. After aspiration the cyst appears deflated

The cyst appears completely adhered to the pericardium; there was no solid component and no obvious communication with the pericardium (Figure. 6)

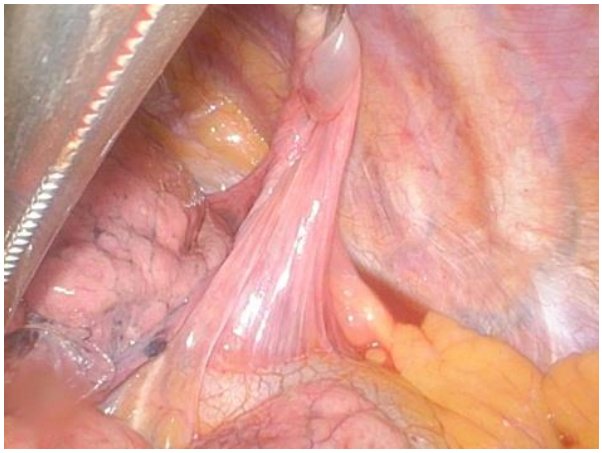

Figure 6. The cyst appears completely adhered to the pericardium

The cyst is carefully separated from the pericardium with radio frequency device and radically removed (Figure. 7).

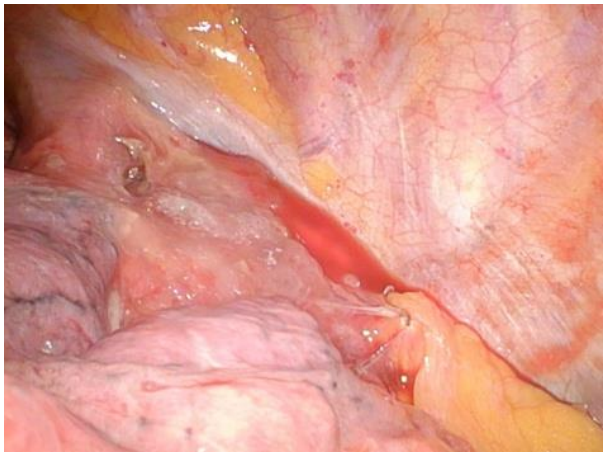

Figure 7. The cyst is carefully separated from the pericardium and radically removed

No complications were observed; post-operative chest x-ray shows good lung expansion and a normal cardiac silhouette (Fig. 8).

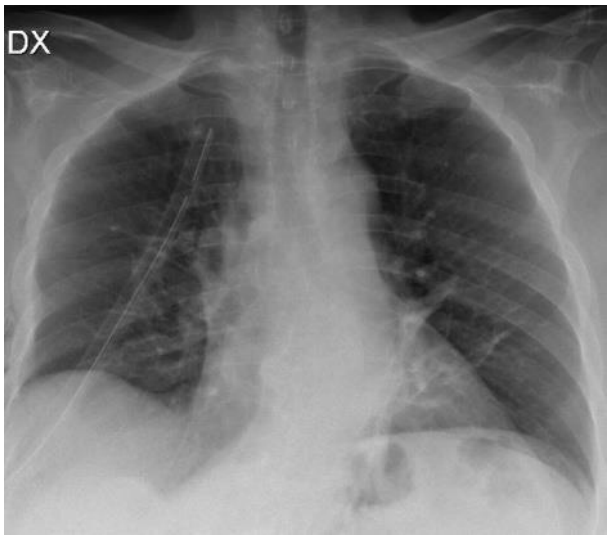

Figure 8. Post-operative chest x-ray shows good lung expansion and a normal cardiac silhouette

The patient was discharged on the sixth postoperative day. Histological examination reveals intense chronic inflammation of the cyst wall with vascular congestion. An abdominal CT scan extended to the chest, performed 27 months after surgery for recurrent intestinal obstruction, revealed no recurrence of the cyst.

Discussion

Pericardial cysts are rare, benign mediastinal masses [1], which represent 6–7% of masses in the mediastinum [2], with an incidence of 1: 100 000 [3]. Most case are congenital due to an aberrancy in the formation of coelomic cavities [4] with incomplete fusion of the fetal lacunae during the formation of the pericardial sac. Inflammation or infections such as pericarditis or tuberculosis, autoimmune disease (e.g., rheumatism), cardiac trauma are less frequent causes of pericardial cysts [5]. Histologically, the wall of the cyst is composed of fibrocollagenous connective tissue and a single layer of mesothelial cells, and usually contains serous fluid [6]. Pericardial cysts are located more frequently in the right cardiophrenic angle (70% of cases), more rarely in the left cardiophrenic angle (22% of cases), very rarely in the posterior or anterior superior mediastinum (8% of cases) [7]. Their size can range from 2 to 15 cm [8]; the pericardial cysts measuring more than 10 cm in maximum diameter are defined as giant [7] and are extremely rare [1]. The pericardial cyst described in this case report was 10.9 cm on its largest axis. In most cases pericardial cysts are asymptomatic and diagnosed incidentally on a chest x-ray or echocardiography [10] performed to investigate an unrelated disease [4,8]; when present, symptoms are

dyspnea, persistent cough, chest pain, palpitations, and heart failure symptoms, secondary to compression on the hearth [3,8] or lung especially in the case of giant cysts [9]; very rarely life-threatening complications such as pneumothorax, cysts infection or rupture into the pericardium with cardiac tamponade have been reported [4,11]. The chest x-ray revealed a well-defined mass, generally located in the right cardiophrenic angle [8]. On a CT scan a pericardial cyst appears as a lesion with thin walls, homogeneous, fluid-filled, well-circumscribed [8]. Magnetic Resonance Imaging (MRI) is highly sensitive and usually allows diagnosis by defining the tissue characteristics of the cyst [8]. Transthoracic echocardiography can assess any compression on the heart, the presence of pericardial effusion, and any communication between the cyst and the pericardium as occurs in a pericardial diverticulum [4]. A conservative approach with contrast-enhanced CT [7] or echocardiographic [7] follow-up may be indicated for small and asymptomatic pericardial cysts. For symptomatic, giant or rapidly enlarging pericardial cysts, surgical excision is recommended [2,4,7,8]. The treatment of choice is resection with thoracotomy, sternotomy, or even better VATS; cyst excision must be complete to prevent recurrence [8]. Ultrasound or echocardiographically guided cyst aspiration represents a less invasive approach in patients who are no candidates for surgery, but is associated with a higher rate of recurrence [7,8]. In our patient, the cyst was completely resected via VATS, after the initial intra-operative needle aspiration to reduce the size and facilitate its removal.

In our case, we decided to perform surgical removal of the cyst rather than follow-up due to its considerable size. However, to date there are no large, randomized, controlled studies on the management of pericardial cysts; instead, there are only limited reviews and clinical cases, making it difficult to outline guidelines for the surgical management and optimal follow-up of asymptomatic cysts. Echocardiography is the most recommended procedure for follow-up, as it is safe and effective and does not expose the patient to CT radiation.

Conclusions

We report a case of a 64-year-old lady, that we have submitted to successful VATS resection of a giant pericardial cyst incidentally diagnosed on an abdominal TC scan performed to investigate an unrelated disease. Pericardial cysts are usually benign, but they can cause compression on adjacent structures such as the heart or lungs and may be complicated by inflammation, infection, or rupture. Therefore, if symptomatic, rapidly growing, or giant, pericardial cysts require surgical intervention. Initial intraoperative needle aspiration facilitates VATS resection of giant pericardial cyst.

References

1. Ugwu J, Hamilton R, Taskesen T, Osei K, Ghali M. (2022). A rapidly enlarging giant pericardial cyst resected by video-assisted thoracoscopic surgery (VATS): A case report. JC Cases; 25:234-236.
2. Borden N, Naha C, Johnson E, Eby M. (2025). Symptomatic pericardial cyst with a mass effect on the right heart. JCTS; 20:412.
3. Adler Y, Charron P, Imazio M, Badano L, Barón-Esquivias G, Bogaert J, Brucato A, Gueret P, Klingel K, Lionis C, Maisch B, Mayosi B, Pavie A, Ristic AD, Tenas MSabaté et al. 2015 ESC Guidelines for the diagnosis and management of pericardial diseases. The Task Force for the Diagnosis and Management of Pericardial Diseases of the European Society of Cardiology (ESC) Endorsed by: The European Association for Cardio-Thoracic Surgery (EACTS). Eur Heart J 2015; 36:2921-2964.
4. Qamar Y, Gulzar M, Qamar A, Sabry H, Minhas T. (2022). An Incidental Finding of a Large Pericardial Cyst. Cureus 14(4): e23917. DOI 10.7759/cureus.23917.
5. Patel J, Park C, Michaels J, Rosen S, Kort S. (2004). Pericardial cyst: case reports and a literature review. Echocardiography; 21:269-72.
6. Agarwal PP, Seely JM, Matzinger FR. (2006). Wandering pleuropericardial cyst. JCAT; 30:276-8.
7. Hekmat M, Ghaderi H, Tatari H, Arjmand SA, Mirjafari SA. (2016). Giant pericardial cyst: A case report and review of literature. Iran J Radiol; 6; 13(1):e21921.
8. Kar SK, Ganguly T. Current concepts of diagnosis and management of pericardial cysts. Indian Heart J. 2017; 69(3):364-370.
9. Noori NM, Shafighi Shahri E, Soleimanzadeh Mousavi SH. (2021). Large congenital pericardial cyst presented by palpitation and left ventricle posterior wall compression: A rare case report. Pediatr Rep; 13(1):57-64.
10. Suthar PP, Kounsal A, Chhetri L, Chetankumar MM, Shehbaz MA, Raman S. (2023). Pericardial Cyst at an Unusual Location: The Role of CT Imaging. Cureus 15(7): e42403. DOI 10.7759/cureus.42403.
11. Amr BS, Dalia T, Simmons A. (2018). Acute cardiac tamponade secondary to ruptured pericardial cyst: case report and literature review. JC Cases; 18:43-46.

DOI:10.31579/2690-1919/613