ASIAN CARDIOVASCULAR & THORACIC ANNALS

Asian Cardiovascular & Thoracic Annals
21(4) 479–481

DOI: 10.1177/0218492312461263
aan.sagepub.com
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A case of coelomic cysts of the mediastinum

Hideki Ujiie, Daisuke Okada, Yuki Nakajima and Hirohiko Akiyama

Abstract
Coelomic cysts are rare cysts of mesothelial origin. They are generally unilocular and can develop in various sites. We describe a case of a multicystic lesion discovered incidentally in the anterior mediastinum of a 41-year-old man. Immunohistochemistry confirmed multiple coelomic cysts of the mediastinum.

Keywords
Calretinin, cysts, mediastinal cyst

Introduction

Coelomic cysts are rare cysts of mesothelial origin that usually present incidentally or with vague symptoms in varying parts of the body. Coelomic cysts are fluid-filled sacs lined by unilocular mesothelial cells. They are generally unilocular and can develop in various sites, but a few cases of multicystic mesothelial cysts in the mediastinum have been reported. Herein, we report a case of multiple coelomic cysts.

Case report

A 41-year-old asymptomatic man underwent routine chest radiography that revealed a mass in the anterior mediastinum. Chest computed tomography showed a large well-circumscribed homogeneous cystic lesion of approximately $72 \times 92 \times 128$ mm in diameter; the lesion was not enhanced. Magnetic resonance imaging showed an anterior mediastinal cystic mass (Figure 1). The cystic lesion was enlarged and extended to the trachea and superior vena cava. To directly remove the cyst, we performed a median sternotomy which revealed multicystic thin-walled tense masses arising in the anterior mediastinum. The cysts were not adherent to the pericardium or the thymus of the right lobe. The cysts appeared to have a very thin wall through which approximately 500 mL of straw-colored fluid was aspirated and sent for analysis. Immunohistochemistry revealed that the cysts were lined with a layer of mesothelial cells and did not show any malignant foci. The lining cells were positive for calretinin (a selective mesothelial marker) and cytokeratin AE1/3, and negative for the lymphocyte marker (Figure 2). Cytology of the cyst fluid was negative and consistent with a simple transudate with no malignant cells. These findings suggested that the masses were mesothelial cysts of the mediastinum.[1]

Discussion

Very little is known regarding the embryologic origin of coelomic or mesothelial cysts, their natural history, or their optimal management.[1,2] Mesothelial cysts occur with an incidence of 1 in 100,000, and constitute 7% of all mediastinal tumors.[3] They are typically located in the anterior mediastinum, in the right cardiophrenic angle in 51%–70% of cases, and in the left cardiophrenic angle in 22%–38% of cases.[4,5] These are so-called pericardial cysts that develop in the outer layer of the parietal pericardium or have a pedicle attachment to the pericardium. Coelomic cysts are completely

Department of Thoracic Surgery, Saitama Cancer Center, Saitama, Japan

Corresponding author:
Hideki Ujiie, MD, Department of Thoracic Surgery, Saitama Cancer Center, 818 Komuro, Ina, Saitama 362-0806, Japan.
Email: hideki_ujiie@hotmail.com

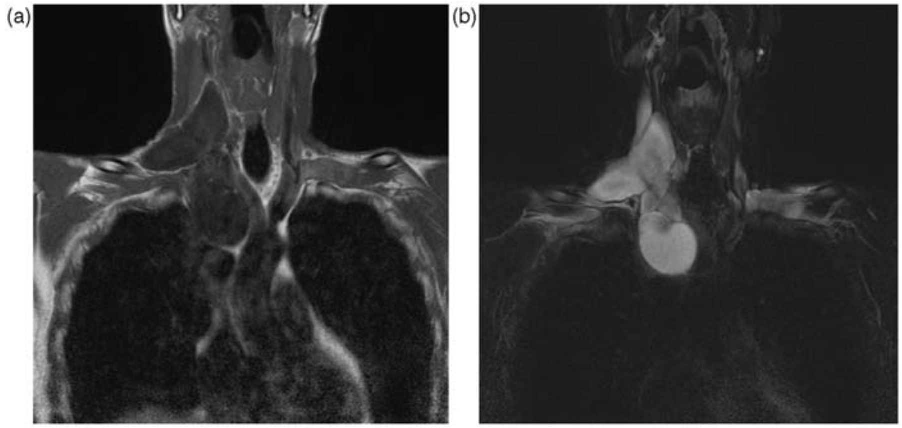

Figure 1. Magnetic resonance imaging of the mediastinal tumor (a) at T1, showing low intensity and (b) at T2, showing high intensity.

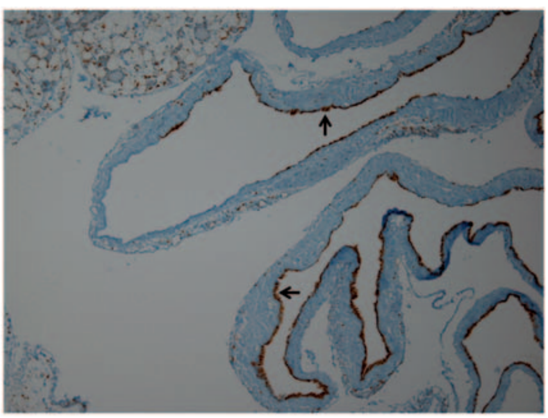

Figure 2. Immunohistochemistry revealed that the cysts were lined with a layer of mesothelial cells. The lining cells were positive for calretinin (arrow). Original magnification × 100.

unattached, without any anatomic continuity with the pericardium, and contain serous fluid with a low specific gravity. Overall, coelomic cysts appear to be simple unilocular cysts filled with clear or slightly yellowish thin fluid. Pathologically, the cyst wall consists of a single layer of flattened endothelial cells with an underlying connective tissue stroma and an epithelial lining that has a low likelihood of malignancy.

These lesions are most often asymptomatic and are discovered only incidentally on radiography of the chest. However, the symptoms, no matter how vague, often warrant treatment. Some reports have suggested percutaneous needle drainage of the fluid for mild symptoms, or if cytologic evaluation is necessary, to help establish a diagnosis of malignancy.[4,6] This can usually be accomplished with ultrasonographic guidance, computed tomographic guidance, or endobronchial ultrasound guidance, depending on the location of the cyst. Surgical resection should be reserved for cysts that are symptomatic or atypical. Complex cysts such as those in unusual locations with multiple loculations, high attenuation within the cyst, or an irregular or mass-like component to the cyst, require resection for diagnosis. In most cases, this can be performed easily through a limited thoracotomy or thoracoscopic approach, with minimal morbidity and low mortality. Progress in video-assisted thoracoscopic surgery has enabled us to use this technique for simultaneous diagnosis and treatment.[7] The outcome in this case is consistent with previous finding that selected patients with mediastinal cysts could be managed safely and effectively by thoracoscopic surgery.[8]

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflicts of interest statement

None declared.

References

1. Myung RJ, Leshnower BG and Miller JI Jr. Mediastinal coelomic cyst. *Ann Thorac Surg* 2011; 91: 1967–1969.
2. Shields TW. Mesothelial and other less common cysts of the mediastinum. In: Shields TW (ed.) *General thoracic surgery*, Seventh ed. Philadelphia: Lippincott, Williams, & Wilkins, 2009, pp. 2539–2550.
3. Le Roux BT. Pericardial coelomic cysts. *Thorax* 1959; 14: 27–34.
4. Walker MJ, Sieber SC and Boorboor S. Migrating pleural mesothelial cyst. *Ann Thorac Surg* 2004; 77: 701–702.
5. Shin MS, Tyndall EC and Ronderos AD. Pedunculated pericardial coelomic cyst manifesting as a rolling intrapleural mass. *Chest* 1973; 63: 123–124.

6. Snyder SN. Massive pericardial coelomic cyst: diagnostic features and unusual presentation. *Chest* 1977; 71: 100–102.
7. Roviaro G, Rebuffat C, Varoli F, Vergani C, Maciocco M and Scalambra S. Videothoracoscopic excision of cysts of mediastinal masses: indications and technique. *Ann Thorac Surg* 1994; 58: 1679–1683.
8. Schwarz CD, Puschmann R, Eckmayr J, Hartl P, Mayer KH and Zisch RJ. Videoendoscopic removal of a mediastinal cyst. *Chest* 1994; 105: 1254–1256.