A Thymic Cyst in the Middle Mediastinum: Report of a Case

Eiki Mizutani, MD,1 Kazuki Nakahara, MD,1 Shigeki Miyanaga, MD,1 Tomoharu Yoshiya, MD,1 Yukiko Kishida, MD,2 and Koichi Tamura, MD2

Introduction

Thymic cysts account for about 5% of all mediastinal masses and usually occur in the anterior mediastinum.1) Occasionally, some have been found in the cervical portion.2) Thymic cysts arising in the middle mediastinum are extremely rare, with only 2 previously reported cases.3,4) We herein describe a case of a large thymic cyst in the middle mediastinum, which was resected by a thoracoscopic procedure.

Case Report

A 41-year-old female was referred to our department because of an incidental mediastinal mass detected on chest X-ray. The patient denied a history of any disease, other than removal of an ovarian cyst. She had no clinical symptoms. Her physical examination and laboratory results were normal. A right-sided mass was detected and confirmed by computed tomography, which showed a well-defined and dense 7 cm mass located in the middle mediastinum between the trachea and superior vena cava (Fig. 1). Mild compression of the superior vena cava by the mediastinal mass was also noted. Magnetic resonance imaging showed a cystic lesion without any soft tissue density in the circumference (Fig. 2). The monolocular tumor had a heterogeneous interior, a low intensity on the T1 images and a high intensity on the T2 images. The border of the tumor was clear, without any invasion and continuity with the surrounding tissue. We made the pre-operative diagnosis of a benign cystic tumor in the middle mediastinum.
mediastinum, and performed thoracoscopic surgery using three trocars through small (less than 1.5 cm) incisions. The tumor was well defined and encapsulated with a thin wall, without any sign of invasion or connection to the surrounding tissue (Fig. 3). After aspiration of the serous contents in an end-pouch, the tumor was removed from the thoracic cavity. The contents of the cyst were serous yellow fluid, and no malignant cells were detected by cytology. A pathological examination revealed fragments of fibrotic cystic wall with sections of thymic tissue, thus confirming the diagnosis of a thymic cyst (Fig. 4). The patient had an uneventful post operative course and was discharged on the third postoperative day.

Discussion

Thymic cysts account for about 5% of all mediastinal masses and usually occur in the anterior, prevascular component of the mediastinum. Ectopic thymic tissue may be present in the retroinnominate vein area, and adipose tissue surrounding the thymus, which occasionally contains some thymic tissue, often has continuity with the pleural or hilar adipose tissue. Thymic cysts arising in the middle mediastinum are extremely rare, with only
A Thymic Cyst in the Middle Mediastinum

2 previously reported cases. In the two previous reports, one thymic cyst was located in the retroinnominate vein area, and the other had occurred in the adipose tissue under the carina. To our knowledge, only 5 cases of thymomas in the middle mediastinum have been reported, all of which occurred in the retroinnominate vein area. It was, therefore, necessary to consider the fact that thymic neoplasm may occur in this area.

The preoperative diagnosis of a mediastinal cystic mass is often difficult. In the present case, the preoperative diagnosis was a benign mediastinal cyst, such as a bronchogenic cyst, a pericardial cyst or a lymphangioma. The thoracoscopic findings showed that the tumor was well defined and encapsulated with a thin wall, without any sign of invasion or connection to the surrounding tissue. In addition, the contents of cyst were serous. A pathological examination confirmed the diagnosis of a thymic cyst.

The standard indication for the surgical resection of mediastinal cystic lesions has been the possibility of malignancy. However, because such cysts are likely to be benign, the use of a thoracoscopic procedure, as a minimally invasive technique, is highly recommended. Thoracoscopy seems to have several potential advantages over open techniques in terms of the attendant postoperative pain and pulmonary complications. We usually perform a resection using three trocars through small incisions. However, larger incisions may be made to allow for removal of the intact cyst, if spillage of the cyst contents is considered to be potentially hazardous. In the present case, the tumor lacked any sign of invasion or connection to the surrounding tissue, and we safely performed its complete resection through a small incision after the aspiration of the serous contents in an end-pouch.

Conclusion

Thymic cysts in the middle mediastinum are extremely rare. A surgical resection provided the histological diagnosis of a thymic cyst in the present case.

Disclosure Statement

We have no conflict of interest.

References