Thoracoscopic Resection of Castleman Disease*

Case Report and Review

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Castleman disease is an uncommon entity, most often occurring in patients presenting with localized mediastinal lymph node enlargement. While surgical resection is the preferred treatment, there are concerns about approaching this highly vascular tumor with thoracoscopy. We present the second reported case of thoracoscopic resection of a patient with Castleman disease and review the literature.

Key words: Castleman disease; giant lymph node hyperplasia; mediastinal tumors; thoracoscopy; video-assisted thoracic surgery

Abbreviation: VATS = video-assisted thoracic surgery

CASE REPORT

A 30-year-old African-American woman, after being in a motor vehicle accident, was noted to have a widened mediastinum on a chest radiograph. A chest CT scan revealed a 5-cm, well-circumscribed, paratracheal mass (Fig 1). The patient was referred to the thoracic surgery clinic after an uneventful hospital stay. The patient was asymptomatic, and an MRI showed a 5 × 6 × 5-cm right paratracheal mass. There was no radiologic evidence of tracheobronchial compression or invasion of pleural or bony tissues, nor was there evidence of any other pathology. The patient was taken to the operating room for planned thoracoscopic resection. During the operation, bronchoscopy was unremarkable. A double-lumen endotracheal tube was placed, and the patient was positioned in a left lateral decubitus position. With single-lung ventilation, an initial 12-mm port was placed in the lower midaxillary line, followed by the placement of two additional 10-mm ports in the fifth intercostal space at the anterior and posterior axillary lines. A visual examination revealed no other gross abnormalities except for the mass located at the apex of the pleural cavity (Fig 2, top), which was situated between the azygous and superior vena cava. Aspiration of this lesion was unsuccessful. Incising the parietal pleura revealed this mass, which was highly vascularized (Fig 2, bottom). Cautious use of electrocautery, as well as the liberal application of clips, allowed this mass to be mobilized and removed en bloc, without damage to surrounding structures. The mass was removed from the pleural cavity with an endoscopic bag. With hemostasis achieved, a single chest tube was placed. The patient had the chest tube removed on the first postoperative day and was discharged to home the second day. A pathologic examination revealed a 4.9 × 2.9 × 1.9-cm specimen having a tan-pink coloration, with follicular lymphocytic concentration and marked capillary proliferation, consistent with hyaline, vascular-type Castleman disease.

DISCUSSION

Castleman disease, which is also referred to as giant lymph node hyperplasia, angiofollicular lymph node hyperplasia, lymph node hamartoma, and benign lymph node lymphoma, was first described by Castleman5 in 1956. Castleman disease is a rare
disorder and is most commonly characterized by mediastinal lymph node enlargement. The clinical presentation and course varies, whether patients have the more frequent localized form or the much rarer multicentric form. Histologic types include hyaline vascular, plasma cell, as well as a mixed type. The hyaline vascular type accounts for approximately 90% of cases and most often presents in a localized form. Radiologically, these local tumors generally present as well-circumscribed masses in the visceral compartment of the mediastinum. These patients tend to be younger (median age, 23.5 years), to be asymptomatic, and to have a benign clinical course. Surgical excision is curative, with a 5-year survival rate of 100%, although close follow-up is recommended due to reports of recurrence.

Thoracoscopic resection of certain benign mediastinal lesions has been increasing in frequency and has been shown to be a safe and effective alternative to open thoracotomy. The most common pathologic diagnosis with thoracoscopic resection varies with the reported series. Akashi et al and Demmey et al have reported neurogenic tumors and cysts most frequently, and Roviaro et al have reported a preponderance of early-stage thymoma and thymic hyperplasia. While the role of VATS for the treatment of thymic tumors has not been clearly established, VATS is contraindicated in cases of malignancy.

The patient’s age and symptoms, as well as the tumor location and characteristics on radiographic studies are very important in the decision-making process to proceed with VATS. Experience with thoracoscopic surgery and proper port placement to optimize visualization are key for successful resection. The thoracoscopic approach should not compromise the goal of the operation, and, if necessary, conversion to an open procedure should be performed.
disease. Our case confirms that with experience, proper technique, and attention to hemostasis, thoracoscopic resection can be performed successfully for treatment of Castleman disease, despite the increased vascularity of this tumor.

CONCLUSION

We suggest that Castleman disease, albeit uncommon, should be included in the differential diagnosis of mediastinal tumors, and that thoracoscopic resection of Castleman disease can be safely performed.

REFERENCES