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Repeated Localized Treatment for Endobronchial Metastasis of Thymic Carcinoma

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Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
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Conflict of interest: None declared

Patient: Female, 59
Final Diagnosis: Thymic carcinoma
Symptoms: Dyspnea
Medication: —
Clinical Procedure: Bronchoscopy
Specialty: Oncology

Objective: Unusual clinical course

Background: Endobronchial metastases derived from nonpulmonary tumors are uncommon, although a variety of malignant tumors have been reported to be associated with endobronchial metastasis. We herein report a case of repeated bronchoscopic resection of endobronchial metastasis of a thymic carcinoma.

Case Report: A 59-year-old woman was diagnosed with primary thymic carcinoma, Masaoka stage IVA, in May 2009. In June 2013, she developed dyspnea. A chest CT scan revealed left upper lobe atelectasis, and a polypoid lesion was noted in the left upper bronchus on bronchoscopy. A pathological examination of the lesion revealed metastatic thymic carcinoma, and bronchoscopic resection was performed for symptom relief. However, the lesion was partially resected, based on the operative findings, which showed the peripheral part of B3 to be the origin of the polypoid lesion and bronchoscopy could not be used to reach this site. Although the patient underwent repeated partial bronchoscopic resection of the polypoid lesion due to the symptoms of dyspnea caused by regrowth of the polypoid metastatic thymic cancer in the left upper bronchus, she remains alive with an excellent performance status and no evidence of widespread or other metastases for more than 5 years after the initial diagnosis.

Conclusions: We speculate that this case was successfully managed with repeated partial bronchoscopic resection because thymic cancer tends to be a slow-growing tumor. Therefore, it is worth resecting endobronchial metastatic thymic carcinoma repeatedly in such cases, even if the resection is partial.

MeSH Keywords: Neoplasm Metastasis • Thymus Neoplasms • Treatment Outcome

Full-text PDF: http://www.amjcaserep.com/abstract/index/idArt/894072

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Background

Endobronchial metastases derived from nonpulmonary tumors are uncommon, although a variety of malignant tumors have been reported to be associated with endobronchial metastasis, of which breast and colon lesions predominate [1]. However, few reports are available with respect to endobronchial metastatic thymic carcinoma [2]. Therefore, there remains no consensus regarding the best management strategy for endobronchial metastatic thymic carcinoma. We herein report a case of repeated bronchoscopic resection of endobronchial metastasis of a thymic carcinoma.

Case Report

A 59-year-old woman was initially evaluated for a mediastinal mass detected on chest computed tomography (CT) in May 2009. Contrast-enhanced CT showed an anterior mediastinal mass with a poorly defined margin. We planned to perform surgery, as there were no other signs of distant metastasis. The intraoperative findings showed that the mass had invaded the bilateral lungs, sternal bone, and pericardium (Masaoka stage IVA. The patient underwent the tumor biopsy only, and the pathological results of the biopsy specimen were consistent with a diagnosis of primary thymic epidermoid keratinizing squamous cell carcinoma [World Health Organization (WHO) type C]. The patient underwent chemoradiotherapy with a total delivered external beam dose of 60 Gy and the combination of cisplatin, vincristine, doxorubicin, and etoposide, with a good objective clinicoradiographic response.

In September 2011, lung metastasis of the thymic cancer was noted in the right upper lobe on follow-up CT imaging, and the patient underwent chemotherapy consisting of a combination of Adriamycin, cisplatin, vincristine, and cyclophosphamide. However, it was difficult to continue the chemotherapy regimen due to the onset of various life-threatening adverse effects of the treatment.

In June 2013, the patient developed dyspnea. A chest CT scan revealed left upper lobe atelectasis, and a polypoid lesion was noted in the left upper bronchus on bronchoscopy (Figure 1). The pathological examinations of the biopsied specimen of the polypoid tumor revealed the lesion to be metastatic thymic carcinoma. Bronchoscopic resection using snare electrocautery was performed for symptom relief. However, based on the operative findings, the lesion was partially resected (Figure 2), as the peripheral part of the segmental bronchus (B3) was found to be the origin of the polypoid tumor and bronchoscopy could not be used to reach this site. The patient's dyspnea resolved in association with the disappearance of the left lingular segmental lobe atelectasis on CT images after resection,

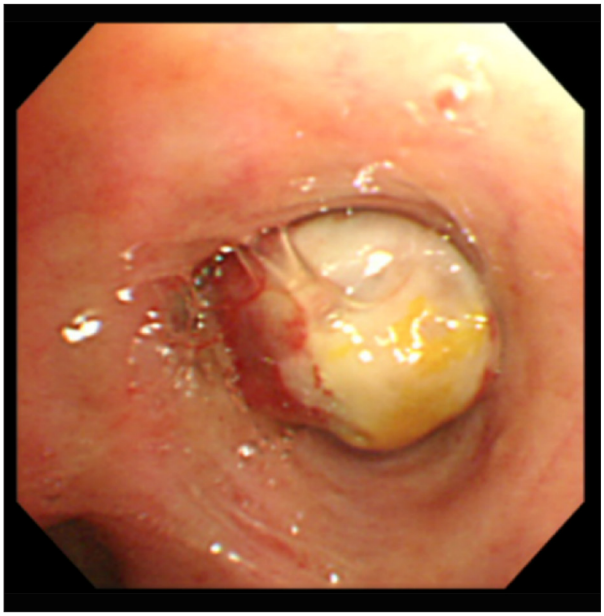

Figure 1. Bronchoscopic image obtained at the level of the left upper lobe showed a pink polypoid endobronchial lesion that arose from the B3 segment of the left upper lobe and completely obstructed the left upper bronchus.

although the atelectasis in the superior segmental bronchus of the left upper lobe remained unchanged. In March 2014, 9 months after the operation, she developed dyspnea caused by regrowth of the polypoid metastatic thymic cancer in the left upper bronchus. The only treatment choice was to partially resect the lesion again via bronchoscopy because surgical treatment, such as lobectomy or segmentectomy, would have been intolerable due to her worsening pulmonary function. Furthermore, in June and September 2014, we performed partial bronchoscopic resection for the polypoid lesion as a result of the onset of further symptoms of dyspnea caused by regrowth of the polypoid metastatic thymic cancer in the left upper bronchus.

In summary, the patient remains alive with an excellent performance status and no evidence of widespread or other metastases for more than 5 years after the initial diagnosis, although every few months she undergoes bronchoscopic resection of the polypoid metastatic thymic cancer in the left upper bronchus.

Discussion

Endobronchial metastatic carcinoma can cause massive hemoptysis and/or airway obstruction as the lesions increase in size. Therefore, it may be necessary to treat the tumor topically via bronchoscopic resections in addition to the administration of systemic therapies such as chemotherapy.

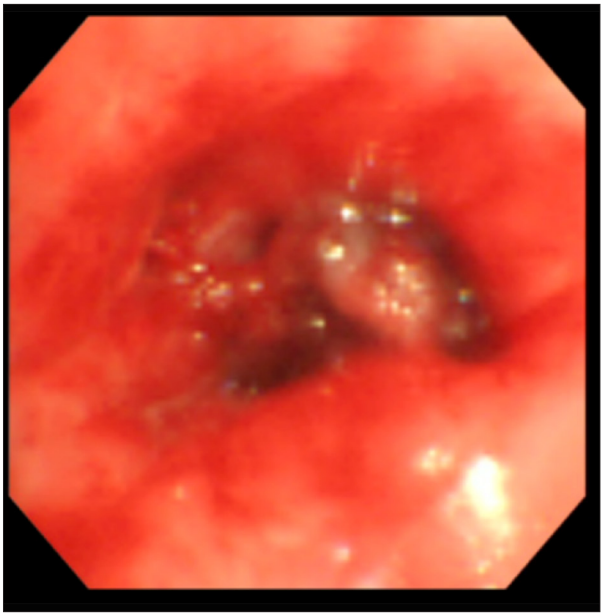

Figure 2. The polypoid endobronchial lesion was partially removed via bronchoscopic resection using snare electrocautery.

The treatment for endobronchial metastasis may be determined based on the anatomic location of the lesions, evidence of other metastatic sites, and patient performance status [1]. In the current case, the endobronchial metastasis was removed via endoscopic resection, although we had no choice but to resect the lesion partially, as bronchoscopy could not be used to reach the origin. Therefore, it was necessary to repeat the resection procedure each time the patient developed symptoms of dyspnea.

In general, the efficacy of partial resection does not last long if treatments, such as radiotherapy or chemotherapy, are not performed after the surgery due to the potential for regrowth of the residual endobronchial metastatic carcinoma. However, in the present case, the use of repeated partial resection provided life-saving improvements in the patient`s performance status.

Based on previous reports [1,2], endobronchial metastasis can be managed successfully with complete bronchoscopic complete resection. However, to the best of our knowledge, the current report is the first to show that endobronchial metastatic thymic carcinoma may be treated successfully with repeated partial bronchoscopic resection of the tumor.

In general, the 5-year survival rates of patients with thymic carcinoma are higher than those of patients with many other cancers. Thymic carcinoma is commonly staged according to the clinical staging system by Masaoka et al. [3] and the World Health Organization (WHO) histologic classification. According to Kondo et al., the 5-year survival rate of stage I plus II, III, and IV thymic carcinoma is 88.2%, 51.7%, and 37.6%, respectively [4]. We speculate that our patient was successfully managed with repeated partial bronchoscopic resection of the tumor because thymic cancer tends to be a slow-growing tumor [5].

Conclusions

It is worth resecting endobronchial metastatic thymic carcinoma repeatedly, even if the resection is incomplete.

Naohiro Taira and the other co-authors have no conflicts of interest to declare.

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