Triple thymoma with different histologic types

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Multiple thymoma is a rare condition, and only a few double thymoma cases have been reported.¹⁻³ Among these cases, most had the same histologic subtypes, and so there is argument regarding whether those were multicentric lesions or intrathymic metastases. We present here a case of triple thymoma with different histologic types and discuss the origin of multiple thymoma.

Clinical Summary

A 72-year-old man was admitted to our university hospital after screening because three discrete masses in the anterior mediastinum were noted on his chest computed tomographic scans (Figure 1). The patient was symptom free. Results of physical and laboratory examinations, including the serum level of anti-acetylcholine receptor antibodies, were normal. Total thymectomy with removal of the three tumors was performed through a median sternotomy. The largest firm tumor (Tumor A), measuring 40 × 30 × 16 mm and adherent to the mediastinal pleura, was found at the right lower portion of the thymus. Far from it, the second tumor (Tumor B), measuring 17 × 17 × 12 mm was noted in the right upper portion, and the remaining one (Tumor C), measuring 12 × 12 × 8 mm, was

detected in the left lobe of the thymus. No additional tumor was disclosed during the operation. The pathologic examinations of the resected specimens revealed that all three tumors were thymomas with histologic types that were different from each other, according to the World Health Organization classification.⁴ Tumor A had invaded the capsule of the thymoma, and the histologic finding of a proliferation of epithelial cells with relatively large and vesicular nuclei with distinct nucleoli among a heavy population of lymphocytes was compatible with type B2 thymoma. Tumor B was encapsulated, and the histologic feature was predominant lymphocytic forms with scattered plump and round to oval epithelial cells (type B1). Tumor C was also encapsulated and comprised rich lymphocytes and spindle-shaped epithelial cells without nuclear atypia (type AB). Moreover, a focus of thymic epithelial cell hyperplasia was observed in the resected thymus. No adjuvant therapy was performed, and the patient has been well without recurrence for 7 months after surgery.

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Discussion

Multiple thymoma has seldom been reported because of its rarity. The incidence in large series has been documented at 0% to 2.2%.^{5,6} To our knowledge, there have been only 13 reported cases of double thymoma in the literature, and none of triple or greater thymoma.¹⁻³ Concerning the histologic types, most cases of multiple thymoma have consisted of tumors of the same type,^{1,2} with only 2 cases of double thymoma with different histologic types reported.³

It is possible that the genesis of multiple thymoma involves both intrathymic metastasis and multicentric tumors. Nomori and colleagues¹ described a case of double thymoma in which the histologic, morphometric, and immunohistochemical findings suggested the pos-

Figure 1. Triple anterior mediastinal masses on chest computed tomography. A, Tumor A (arrow); B, tumors B and C (arrows).

sibility of intrathymic metastasis rather than multicentric thymoma development. No other reports of multiple thymoma, however, have inferred that the origin was through intrathymic metastasis because of the small number of tumors, similar sizes, and noninvasiveness.^{2,3} This case was a triple thymoma with three different histologic types, and we suppose that these three tumors originated independently from different areas of the thymus, because the histopathologic types are classified according to the normal differentiation of the major functional and anatomic compartments of the thymus.⁷ Moreover, hyperplasia of thymic epithelial cells was seen in other thymic tissue of the specimen, although it is not known whether those lesions would grow into a thymoma. From these cases, we suspect that the thymus has a potential to develop multicentric thymomas.

Although we performed a total thymectomy in this case, the extent of the excision for thymoma is controversial even when complete resection is accomplished. Nevertheless, we think that a total thymectomy is the best approach to resection for thymoma because there may be multicentric thymomas.

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Tracheal injury during pneumonectomy: Semi-conservative treatment

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Tracheobronchial laceration (TBL) is a serious lesion usually occurring during endotracheal intubation and frequently involving the pars membranacea. Treatment can be conservative for small lesions and when the patient's condition is stable, or surgical for bigger lesions and when pneumomediastinum and/or subcutaneous emphysema threaten the patient's life.^{1,2}

We hereby describe a case of right-sided TBL in a patient undergoing left pneumonectomy in which a semi-conservative treatment was accomplished.

Clinical Summary

A 54-year-old, 156-cm tall male patient was admitted to our hospital with a diagnosis of squamous cancer of the left lung. The tumor was clinically staged as T2 N0 M0. General anesthesia was induced, and the patient was easily intubated with an endotracheal double-lumen tube. With the patient in the right lateral decubitus

position, through a lateral thoracotomy in the left fifth intercostal space, a left pneumonectomy was carried out. The left bronchus was doubly closed with mechanical and manual sutures and a drain was inserted. During the operation, the anesthesiologist did not report any episode of desaturation or bleeding from the tracheal tube. The patient was extubated on the table, his condition was stable, and blood gases were good.

Shortly after recovery from anesthesia, the patient suddenly began having intense dyspnea and a rapidly evolving subcutaneous emphysema in the head, neck, and upper part of the chest aggravated by coughing and without any air leak in the Büllau drainage. Blood gases were as follows: Po₂ 38.8 mm Hg, Pco₂ 34.1 mm Hg, pH 7.47, and oxygen saturation 70%. Chest radiography showed right pneumothorax and a wide pneumomediastinum. Examination with a fiberoptic bronchoscope revealed a tear (4-cm long) on the right side of the trachea 2 cm above the carina (Figure 1, A). The right pneumothorax was drained and the patient was returned to the operating room. We thought that performing a right thoracotomy in a patient with a left pneumonectomy and in respiratory distress would not be wise. Therefore, we decided to treat the patient semi-conservatively. With general anesthesia, we performed an anterior cervicotomy. The infrahyoid muscles were dissected, the pretracheal fascia was entered, and a drain was inserted into the pretracheal space (Figure 1, B).

The patient's clinical condition improved, the subcutaneous and mediastinal emphysema disappeared, the patient was extubated in the operating room, and the postoperative course was uneventful. Mediastinal and right chest drains were removed 3 and 5 days, respectively, after the operation, and the patient was

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