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Two Cases of Synchronous Multiple Thymoma

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Abstract: We report two cases of synchronous double primary thymoma without myasthenia gravis. These cases suggest the possibility of multicentric thymoma and confirm the validity of a complete thymectomy.

Key Words: thymoma, double primary, surgery

Introduction

Since thymoma is composed of neoplastic thymic epithelial cells and is also associated with a variable number of lymphocytes, its characteristics have been reported to vary. Multiple primary thymoma has seldom been reported because of its rarity. We herein present two cases of synchronous double primaries of thymomas.

Case Reports

Patient 1

A 37-year-old woman was admitted with a diagnosis of an anterior mediastinal tumor that had been found on a routine chest X-ray examination (Fig. 1a). Although she had no clinical features of myasthenia gravis, the serum concentrations of antiacetylcholine receptor antibodies was 1.4 nmol/l (normal <0.3 nmol/l). A computed tomographic scan of the chest showed two tumors composed of clear surfaces in the anterior mediastinum (Fig. 1b). The tumors which were not adherent to the surrounding tissue were removed easily via a median sternotomy. Macroscopically, the tumors were well encapsulated. The tumor in the right lobe of the thymus measured 55 × 45 × 30 mm (Fig. 2, right side) and the other one in the left lobe 35 × 20 × 15 mm (Fig. 2, left side). Histologically, both of them were thymomas of predominantly lymphocytic forms and were not invasive (Fig. 3). On macroscopic and microscopic examinations, one tumor was appeared to be separated from the other. The patient was discharged without any postoperative complications.

Patient 2

A 70-year-old man was admitted to our hospital having been diagnosed with anterior mediastinal tumors on a routine chest X-ray examination. The physical examination findings were normal. The level of antiacetylcholine receptor antibodies was 0.6 nmol/l (normal <0.3 nmol/l). A chest roentgenogram (Fig. 4a) and a computed tomographic scan (Fig. 4b) indicated the possibility of two tumors existing in the anterior mediastinum. A thymectomy was performed. In the right lobe of the thymus, a well-encapsulated tumor measuring 50 × 40 × 30 mm was found. In the left lobe of the thymus, a well-encapsulated tumor measuring 24 × 18 × 18 mm was found. The histological findings of the two tumors were similar but clearly different. The pathologic diagnoses were thymomas of mixed type (Fig. 5). The patient has since recovered uneventfully and is now being followed up as an outpatient.

Discussion

Thymoma is the most common tumor of the anterior mediastinum and is defined as a tumor originating from the epithelial cells of the thymus associated with lymphocytes in various proportions.[1] Multiple thymoma is very rare, and it remains controversial as to whether multiple thymomas involve intrathymic dissemination

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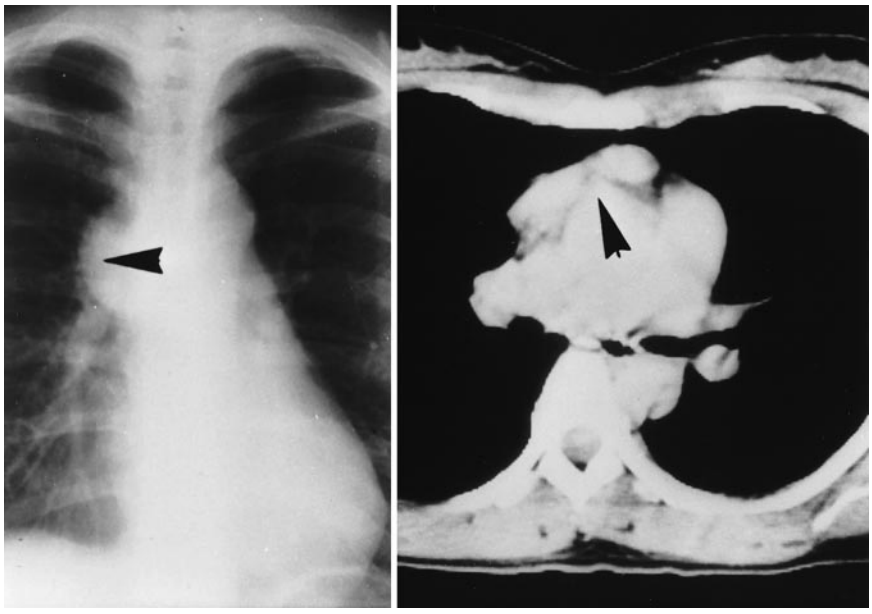

Fig. 1. a Chest roentgenogram and **b** chest computed tomographic scan of case 1 show two masses (*arrows*) in the anterior mediastinum

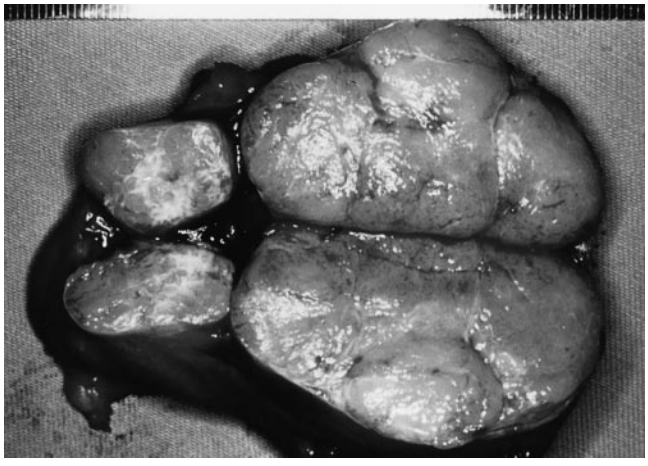

Fig. 2. Excised specimens of the masses from case 1

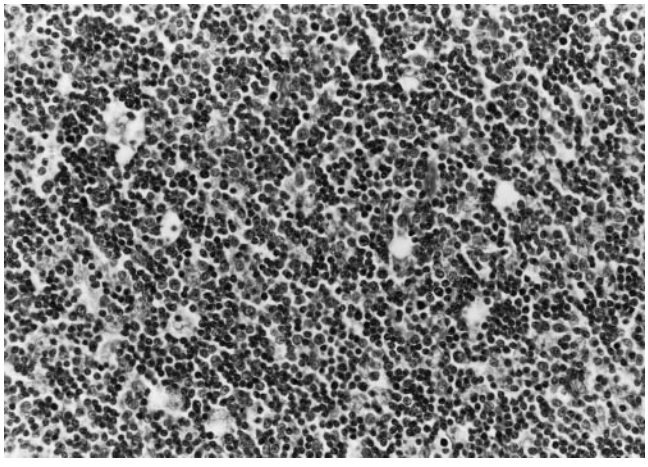

Fig. 3. Microscopic photograph (case 1): thymoma of predominantly lymphocytic forms (H&E, ×40)

or represent multiple primaries. Despite an impressive number of studies, the aspects of multiple thymoma have not as yet been clearly defined. Although Bernatz et al.[2] reported 3 out of 138 (2.2%) thymomas to be multiple primaries, it was difficult to clarify whether the multiple thymomas in their cases involved double primary or dissemination, because they did not mention any close histological characteristics among the multiple thymomas. Nomori et al.[3] described one case of multiple thymoma in which the histological, morphometric, and immunohistochemical findings suggested the possibility of intrathymic metastasis rather than multicentric development. In the clinical and histopathological aspects of the 241 thymomas reviewed by Maggi et al.,[4] no multiple thymomas were described. Since both our cases were totally encapsulated noninvasive-type tumors and did not have any dissemination in the other portion, they were considered to be multiple primaries.

Concerning the effect of myasthenia gravis on survival, myasthenia gravis is the most frequent cause of death among patients with thymoma and myasthenia gravis, whereas in the group of patients without myasthenia gravis, death is most frequently caused by a local progression of the tumor.[4] The cases presented herein were not associated with myasthenia gravis to a

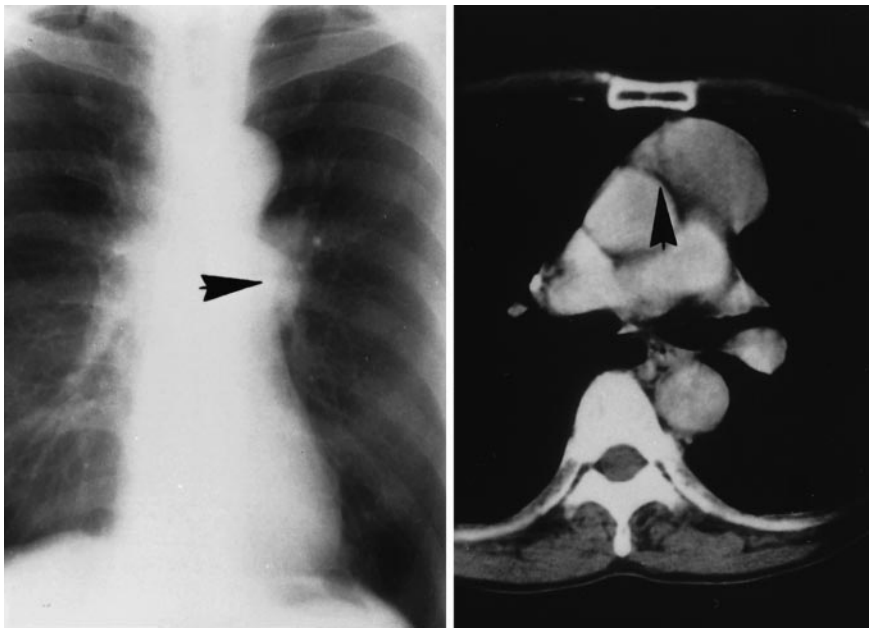

Fig. 4. a Chest roentgenogram and **b** chest computed tomographic scan of case 2 show two masses (*arrows*) in the anterior mediastinum

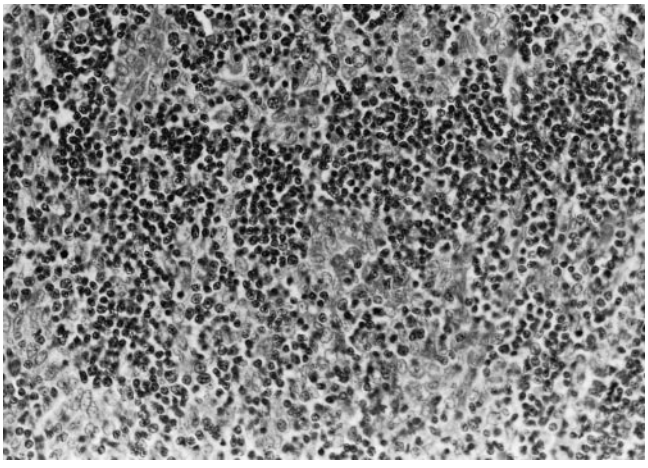

Fig. 5. Microscopic photograph (case 2): thymoma of mixed type (H&E, ×40)

great degree. Therefore, the extent of the resection is an important prognostic factor. In summary, a total thymectomy for such cases was found to be an effective treatment and should thus be performed to prevent a postoperative recurrence of thymoma.

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