Metastatic Thymoma: A Case Report Primary Right Anterior Mediastinal Thymoma and Metastatic Diaphragmatic Thymoma in the Same Time

Healthcare

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Abstract

Although thymomas are characterized histologically by a benign appearance, they have the potential for aggressive local invasion, and occasionally they metastasize. Pulmonary metastases of thymomas are relatively rare. We report one patient Aim of the study: To present a patient who underwent surgery for resection of diaphragmatic thymoma and primary right anterior mediastinal thymoma. Methods and results: A 47-year-old woman presented to our clinic with symptomatic diaphragmal hernia symptoms. A chest CT scan showed a mediastinal mass and a right diaphragmatic mass. She didn't present myasthenia gravis. The patient underwent surgical resection of both of these lesions. The histological diagnosis was type A thymoma with intrapulmonary metastasis, classified also as stage A. He did not receive any adjuvant therapy following the operation because the resection was complete. Operation and post operation period time was uneventfull. Three weeks after intervent the patient was sent to oncology clinic for further treatment.

Introduction

We describe a 47-year-old woman who recently presented to our clinic with symptomatic diaphragmal hernia symptoms, without myasthenia gravis. There was no other notable medical history; in particular, there was no evidence of myasthenia gravis, red cell aplasia, or hypogamma globulinaemia. Approximately 12 years previously patient experiencet thoracic thrauma without treatment. She had been well during the interval from trauma to her recent presentation. Biochemical examinations were normal. At the time of submition she presented severe dyspnea, cough, temperature over 38°C and thoracic pain on the right side. An image of a mass occupying the anterior mediastinum with projection to the right was observed on the chest radiograph. An right anterior mediastinal mass on chest computed tomography (CT). A chest computed tomography (CT) revealed presence of diaphragmatic mass on the right and a mass in the anterior mediastinum, highlighting the necessity of surgery (figure 1).

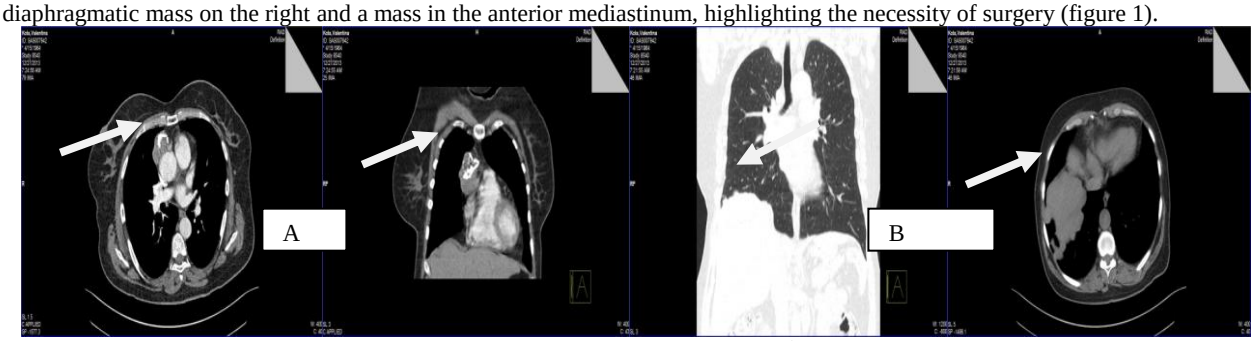

Figure 1: Computed tomography (CT) scan shows an anterior mediastinal mass with calcification, approximately 3 cm in diameter (A), and a non well-defined right diaphragmatic mass (B).

We made a preoperative diagnosis of combined diaphragmatic hernia and thymoma. Therefore the patient was submitted in thoracic surgery to median thoracotomy to remove a large mass occupying the right hemidiaphragm and calcified mass in the anterior mediastinum. Surgery was chosen over systemic therapy as the primary treatment modalities at the time for two reasons.

First, the patient had a single, isolated tumor mass of the right anterior mediastinum and histological not confirm. Second, it was thought, on the basis of the right thoracic location of the second tumor immediately over the diaphragm, that it was impossible to differentiation from diaphragmatic hernia because patient showed for previously traumatic history.

Patient was operated by posterolateral thoracotomy, mediastinal thymomectomy, and diafragmal thoracotomy. At first we open the pleural cavity, in the spacium 6/7 we found a diafragmal mass about 10 x 5 cm total. We made rezection in healthy boundaries around 2-4 cm. Also we made a resection of the mediastinal tumor with size 5 x 8 cm, swell limited and with calcification entire. Because of the difficulty of the plastic of the diaphragm we opened the intercostale space 8/9 where we create the best picture and made with plastic with Prolen Meshe and inthrathoracic drainage of the right side.

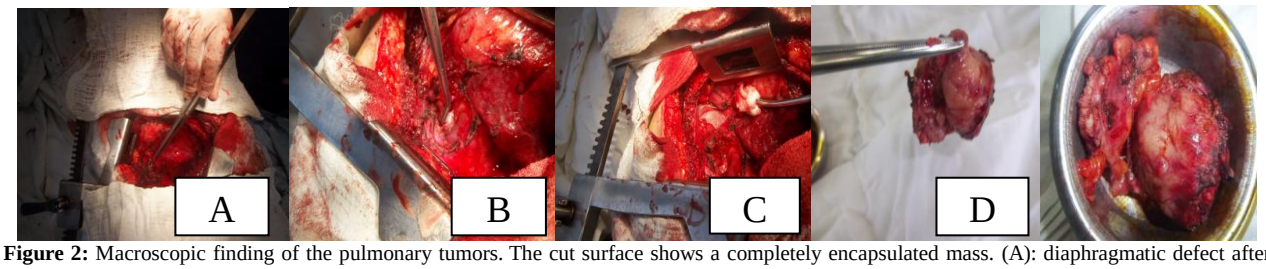

Figure 2: Macroscopic finding of the pulmonary tumors. The cut surface shows a completely encapsulated mass. (A): diaphragmatic defect after tumor excusion; (B): Plastic defect of right site diaphragmal reconstruction with Prolen mesh; (C): Right anterior mediastinal mass after total excision; (D): Diaphragma and mass after total resexion.

Both resected tumors were shown histologically to be type A thymoma (Figure 3), according to the Masaoka staging system [2]. Operation and post operation period time was uneventful. Three weeks after intervent the patient was sent to oncology clinic for further treatment.

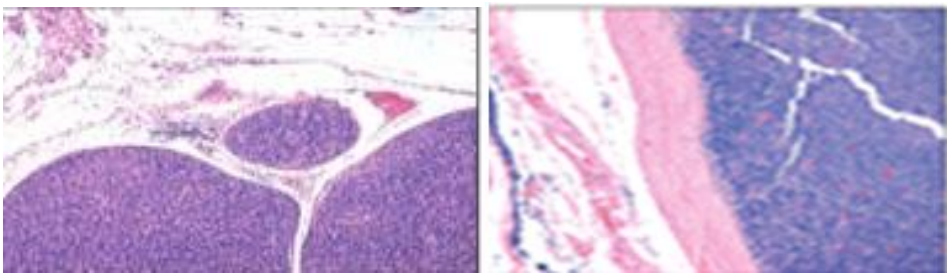

Figure 3: Histological features of an invasive thymoma, stage A

Comments

Thymomas are slow-growing tumors that generally are benign. Radiographically, thymomas are normally round or oval structures, with well-defined margins that can have some peripheral calcification. Approximately 50% of patients with thymomas suffer from *myasthenia gravis* and approximately 15% of patients with *myasthenia gravis* have thymic tumors [1]. Thymomas represent a morphologically heterogeneous group of tumors, which, throughout their history, have remained difficult to categorize by conventional histological findings.

In 1981, Masaoka et al. presented a novel staging system based on the study of 96 cases. In this study, the authors separated cases into 4 stages depending on macroscopic and microscopic evaluation. Stage I included the encapsulated thymoma, and stage IVB, tumors with hematogenous metastases. However, on critical review of the definitions of these stages, one can find that stage II-1, defined as macroscopic invasion into surrounding fatty tissue or mediastinal pleura, may not be so simple to address, as some cases of invasive thymoma can breach the capsule only focally, a feature that may not be so readily appreciated on macroscopic examination [2].

The two most important parameters that have been mentioned in the literature in the prognosis of thymoma are staging and histological typing [3, 4]. Once identified, the treatment of choice is complete resection of the thymoma. In a study of Pego-Fernandez et al. (2001) patients with benign tumors present 10-year survival rates of 82.6% and with malignant tumors the mean 5-year survival rate was 33.5% [5]. Thymomas usually have a favorable outcome after complete resection, but late recurrences more than 10 years after surgery have been reported.

Ina study of 117 patients with the diagnosis of thymoma mediastinal, irradiation (RT) following surgery for invasive thymomas (stages II and III)., Wick MR et al. find no significant difference in the local relapse rate, overall relapse rate, or survival rate. They conclude that total resection alone appears to be inadequate therapy resulting in an unacceptably high local failure rate with poor salvage therapy results [6]. Pleural and limfonodal recurrence are more frequent after surgery for invasive thymomas, while pulmonary metastases are rare. Yamakawa et al, using the TNM classification for thymoma, found that in a study of 207 cases of thymoma, only 7 had metastatic disease in lymph nodes, thus making such an approach impractical [7]. In a different approach, Motoko H and al. (2004) reported two cases of thymoma with pulmonary metastasis. One patient was a 74-year-old man with thymoma and hilar metastasis in the left lung at the same time. The patient underwent surgical resection of both of these lesions. The other patient was a 68-year-old man with myasthenia gravis in which a pulmonary nodule occurred seven years following the initial operation (patient age, 68 years). He subsequently underwent right lower lobectomy and a diagnosis of intrapulmonary metastasis of thymoma was made[8].

Our case represents diaphfragmal rare metastasis at the same time with mediastinal tumor of thymoma. Surgery was chosen over systemic therapy as the primary treatment modalities at the time because it was impossible to differentiation from diaphragmatic hernia because patient showed for previously traumatic history. Histilogycal finding confirmed thymoma tumor of mediastinium and thymoma diaphragmatic metastasis.

Conclusions

Patients with metastatic diaphragmatic thymoma and primary right anterior mediastinal thymoma are very rare. Our case is one of the rare cases with metastatic diaphragmatic thymoma.

References

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