Total remission of thymus carcinoma after treatment with intravenous immunoglobulin

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We report the case of a 42-year-old woman with myasthenia gravis associated with a malignant thymoma. Despite surgery, chemotherapy and radiotherapy, the thymoma showed soft tissues, pleural and mediastinic progression. Unexpectedly, a complete remission of the thymoma was confirmed by FDG-PET after four cycles of immunoglobulins, administered as treatment for a myasthenic crisis. To our knowledge this is the first case report of complete remission of a malignant thymoma with immunoglobulin therapy.

Key words: thymoma, immunoglobulins, treatment.


Approximately 50% of patients with thymus carcinoma or thymoma are asymptomatic at the time of diagnosis 1. The main clinical symptoms are cough, thoracic pain and congestion of superior respiratory airways. There are also patients with thymoma in which the first clinical expression is an autoimmune paraneoplastic syndrome. The most frequent paraneoplastic syndrome associated with thymoma is myasthenia gravis, and less frequently, polymyositis, erythematosus lupus, rheumatoid arthritis, thyroiditis, Sjögren's syndrome, autoimmune pure red cells aplasia and hypogammaglobulinemia 2-3. Autoimmune diseases related to thymoma are due to an alteration in the subgroup of circulating T cells 4,5.

In this report we describe the case of a 42-year-old woman who, in April 1996, developed: subacute dysarthria, blurred vision, intermittent palpebral proptosis, diplopia and dysphagia. Acetylcholine receptor antibodies were positive. A diagnosis of Myasthenia gravis was made. The thoracoabdominal CT scan showed a mass of 4.5 x 2.5 cm in the anterior mediastinum region with several pleural implants. A biopsy, which was performed by pleuroscopy, showed an anatomopathological diagnosis of carcinoma. Chemotherapy treatment based on cisplatin, bleomycin and vincristine was administered for 5 cycles, followed by external radiotherapy (45 Gy), finishing in July 96. The patient remained asymptomatic until November 1999 when she presented a reactivation of her paraneoplastic myasthenic syndrome. The thoracic FDG-PET scan showed three lesions with low metabolism located at left thoracic wall (SUV = 1.1), left pleural surface (SUV = 2.2) and at the retrocardiac region (SUV = 3). A surgical resection of pleural, pericardial, lung and diaphragmatic nodes and a thymectomy was performed. Anatomopathological analysis of the nodes showed multiple metastases of thymoma. A new line of chemotherapy treatment based on doxorubicin, cisplatin and VP16 was administered. After three cycles of treatment, disease progression was confirmed and a new regimen with carboplatin, cyclophosphamide and VP16 was started followed by a peripheral bone marrow progenitor autotransplant. After this treatment no tracks of neoplasm were found. In February 2002, a mass of soft tissues at D10 level with diagnosis of metastatic thymoma was confirmed. A new regimen of chemotherapy treatment with cisplatin, liposomal adriamycin, vincristine and cyclophosphamide and external radiotherapy (30 Gy) was administered, with a radiological complete response. In February 2004 the patient again began to show myasthenic symptoms. The thoracic FDG-PET scan showed pleural metastatic implants and two new nodules in left lung (SUVmax = 2.7) (fig. 1). A new regimen based on cisplatin, liposomal adriamycin, vincristine and cyclophosphamide was started. However, after the second cycle of that regimen, a thoracic CT scan confirmed progression at lung and pleural effusion, so the chemotherapy was stopped. In June 2004, the patient presented a severe myasthenic crisis that required admission to Intensive Care Unit.
Carc Unit. Two cycles, of five days each, with immunoglobulins (2 mg/kg), were administered, improving her myasthenic symptoms. Patient was discharged to Neurology Unit where two more immunoglobulin cycles were administered resulting in a spectacular improvement of her myasthenic symptoms. Unexpectedly a FDG-PET scan confirmed the complete remission of the tumoral lesions (fig. 2). Currently, one year after the complete remission, she still shows mild diplopy and muscular weakness without evidence of tumoral disease.

The treatment of autoimmune diseases associated with thymoma consists of radical surgery of the tumor. However, when there is metastatic disease, chemotherapy treatment is the rescue option. In some cases, as in this report, the persistence of autoimmune symptoms, despite surgery and chemotherapy, make the use of immunosuppressive or immunomodulatory drugs necessary. Surprisingly, in the case reported here, the tumor progressed despite different chemotherapeutic regimes. However, a complete and long-lasting remission and a substantial improvement of the myasthenic symptoms was achieved after administering immunoglobulins.

Our hypothesis is that the immunoglobulin-based treatment allows the inhibition of antiapoptotic stimulus in thymoma. To our knowledge, this is the first case report where a complete remission of thymoma