Primary thymic Hodgkin’s lymphoma: A rare mediastinal mass

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Summary
Hodgkin’s lymphoma may involve the lymph nodes, the thymus or both. It is the most frequent lymphoid proliferation in the mediastinum. Symptoms and radiological findings are non-specific. These tumors must be considered in case of thymus involvement in order to avoid a surgical treatment which could lead to many complications. We report a case of primary Hodgkin’s lymphoma of thymic origin in a 39-year-old woman, with a past medical history of a pleomorphic adenoma of the parotid, who presented with a chest pain. Simple chest radiography showed an anterosuperior mediastinal mass. Thoracic computed tomography revealed an 8-cm and heterogeneous thymic tumor with an involvement of mediastinal nodes. The suggested diagnosis was thymoma. A thymectomy with resection of the involved nodes was undergone via a left posterolateral thoracotomy. The definitive histologic study revealed a Hodgkin’s lymphoma classified as a nodular sclerosing type, which was confirmed by the immunohistochemistry. This case was stage I according to the Costwold classification. The patient received treatment based on 5 cycles of chemotherapy in association to radiotherapy. The response was total with a complete remission without recurrences after a follow up of 2 years. Thymic Hodgkin’s lymphoma must always be considered among the diagnostic options, because the prognosis is strongly dependent on correct early treatment. Treatment is based on radiotherapy and chemotherapy. The main prognostic factors are the size of the tumors, direct invasion of the lung or adjacent tissues, advanced stage, presence of constitutional symptoms and age older than 50–60 years.

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thymus is a lymphoid organ makes it a site for lymphomatous tumor, although primary lymphomas of the thymus are uncommon. Hodgkin’s disease may involve the lymph nodes, the thymus or both. It is the most frequent lymphoid proliferation in the mediastinum. Thymic Hodgkin’s lymphoma must always be considered among the diagnostic options, because the prognosis is strongly dependent on correct early treatment.

We report a case of primary Hodgkin’s lymphoma of thymic origin in a 39-year-old woman, with a past medical history of a pleomorphic adenoma of the parotid, who presented with a chest pain. The time between the onset of symptoms and consultation was 1 month. Clinical examination was normal. Simple chest radiography showed an anterosuperior mediastinal mass. Thoracic computed tomography revealed an 8-cm and heterogeneous thymic tumor with an involvement of mediastinal nodes. The suggested diagnosis was thymoma. A thymectomy with resection of the involved nodes was undergone via a left posterolateral thoracotomy. Macroscopic findings consisted in multiple firm grayish-white nodules with visible fibrous bands (Figure 1). Histopathologic examination showed a nodular infiltrate of the thymus that comprises variable numbers of Hodgkin and Reed-Sternberg cells (Figures 2 and 3). The definitive histologic study revealed a Hodgkin disease classified as a nodular sclerosing type, which was confirmed by the immunohistochemistry. This case was stage I according to the Costwold classification. The patient received treatment based on five cycles of chemotherapy (ABVD; Adriamycin, Bleomycin, Vinblastine and Dacarbazine) and radiotherapy. The response was total with a complete remission without recurrences after a follow up of 2 years.

Thymic Hodgkin’s lymphoma was considered in the past as a peculiar morphologic variant of thymoma. The alternative view that this disease represents Hodgkin’s disease involving the thymus was clearly expressed by Castelman in 1955. Hodgkin’s lymphoma of thymic origin manifests itself in the second to third decades of life and more frequently in men in opposition to the systemic Hodgkin’s disease which appears at the second and third decades and after the fifth decade of life and is more common in women. Patients are generally asymptomatic until extrathymic disease develops, which is generally when the diagnosis is made. The presence of adenopathies is common. On diagnosis, a third of the patients usually have fever, nocturnal sweating, and weight loss. A case of thymic Hodgkin’s disease presented as an inflammatory tumor was reported by Campanelli et al. Coughing, dyspnea or chest pain, like in our case, are related to the compression or the invasion of mediastinal structures. An association of thymic Hodgkin’s lymphoma and myasthenia was also reported by Null JA et al. Nearly 100% of the patients have radiological evidence of intrathoracic disease in the form of an anterior mediastinal mass as was true in our patient. CT scan shows generally a solid heterogeneous thymic mass, with the presence of additional thoracic adenopathies helping to suggest the diagnosis. In many cases, a thymic enlargement is reported. CT scan is very useful for assessing the invasion of adjacent structures, although MRI has been used in recent years since the images can better distinguish the thymic tumor from neighboring structures.
diagnosis includes thymoma, large cell lymphoma of the mediastinum, anaplastic large cell lymphoma and mediastinal fibrosis. Fine needle aspiration has been used for the differential diagnosis of thymic lesions, especially when thymomas are suspected. Despite all the diagnostic techniques, it is difficult to obtain definitive preoperative diagnosis in most thymic lesions. In our case, the diagnosis of thymoma was retained in relation to the radiological findings. Therefore, surgeons must often resort to an open biopsy. The approach of choice is an anterior mediastinotomy. Some authors have performed resection of the thymus in Hodgkin’s disease and most accepted that biopsy is enough to confirm the lymphoma and its variant, because treatment is based on radiotherapy and chemotherapy, besides some authors reported postoperative complications after removal of the thymus. In our case, a removal of the thymus was performed and no complications were reported postoperatively. Macroscopically, the thymus involved by Hodgkin’s lymphoma show multiple firm white nodules with or without visible fibrous bands. On histological study, the most common type is nodular sclerosis, as the other types typically affect lymph nodes except the thymus. Hodgkin’s lymphoma is characterized by a microscopic nodularity, composed of lymphoid cells interspersed with a marked inflammatory cell reaction and separated by wide fibrous band. Identification of lacunar variant of Reed–Sternberg cells confirms the diagnosis. Involvement of the thymus by Hodgkin lymphoma often results in cystic changes, and pseudoepithelial hyperplasia of thymic epithelium mimicking thymoma on small biopsies. Immunohistochemistry is important to confirm the diagnosis. There is no difference with systemic HL. Tumour cells strongly and consistently express CD30. CD15 is detectable in more than 85% of the cases. Hodgkin’s lymphoma associated with EBV express LMP in 30% of the cases. Anatomic staging is a good predictor of survival. Classically, the Ann Arbor system has been used. This has now been updated (Cotswold Ann Arbor modified staging system). Treatment of Hodgkin disease is based on radiotherapy and chemotherapy. Modalities of treatment depend on the Cotswold staging system. In stage I or II, radiotherapy is adequate. In patients with stage III or IV, treatment is chemotherapy occasionally combined with radiotherapy. Hodgkin’s disease evolving the thymus gland predisposes to cystic degeneration especially following radiotherapy. Sometimes a residual mass remains after treatment, and determining whether it is fibrosis or a viable tumor is difficult especially in the first few months. Positron emission tomography and gammagraphy with gallium 67 currently seem to be the most useful for determining whether this residual area harbors tumor activity or merely fibrosis. Survival rates depend on the tumor staging. It accounts for 90% in stages I and II tumors, 65% to 85% in stage III tumors and 50% to 60% in stage IV tumors. Approximately 50% of the patients have recurrence of the disease. It is necessary to wait two decades to consider a patient totally cured with practically no possibility of recurrence. The follow up of our patient was only of 2 years, so we cannot regard her as cured.

Hodgkin’s disease is the most common type of thymic lymphoma. Symptoms and radiological findings are non-specific. These tumors must be considered in case of thymus involvement in order to avoid a surgical treatment which could leads to many complications. Treatment is based on radiotherapy and chemotherapy. The main prognostic factors are the size of the tumors, direct invasion of the lung or adjacent tissues, advanced stage, presence of constitutional symptoms and age older than 50–60 years.

Conflict of interest statement

There are no conflict of interests regarding this manuscript.

References