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Fortuitous Discovery of Primary Hodgkin's Lymphoma of the Thyroid in a Total Thyroidectomy Specimen: Case Report

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Abstract **Case Report**

Primary thyroid lymphomas are a rare clinical entity, which do not exceed 5% of diagnosed lymphomas, occur more frequently in women than in men. The relationship with chronic thyroiditis is well known. The Hodgkin subtype, even rarer, characterized by the presence of mononuclear Hodgkin cells and multinuclear Reed-Sternberg cells observed in a cellular background rich in lymphocytes, histiocytes, plasma cells and/or eosinophils or neutrophils little described in the literature. The diagnostic confirmation is most often carried on the surgical specimen. We will report a case of a 22-year-old patient, with no particular pathological history, who presents with an increase in volume in the anterior part of the neck, the clinical diagnosis mentioned was multi-nodular goiter, including the gesture of total thyroidectomy Have been realised. After histological analysis of the specimen, the pathologist evokes normal and macrovesicular hyperplasia, with the presence of a process of lymphomatous morphological criteria in the right lobe, requiring an immunohistochic study. After confirmation of Hodgkin's lymphoma by immunohistochemistry, the patient underwent chemotherapy under the ABVD protocol (adriamycin, bleomycin, vinblastine and dacarbazine) and radiotherapy.

Keywords: Hodgkin, lymphoma, nodular, sclerosis, proliferation, primitive, thyroid.

INTRODUCTION

Lymphomas are malignant proliferations of mature and immature B cells and T cells at various stages of differentiation. Hodgkin's lymphoma (HL) is a malignant lymphoproliferative disease characterized histopathologically by the presence of mononuclear Hodgkin cells and multinucleated Reed-Sternberg cells observed in a cell background rich in lymphocytes, histiocytes, plasma cells and/or eosinophils or neutrophils [1]. It accounts for 8.2% of all lymphomas diagnosed with an annual incidence of approximately 3 new cases per 100,000 inhabitants [2]. It includes two different entities (classic Hodgkin's lymphoma and nodular lymphocyte-predominant Hodgkin's lymphoma). LH usually presents with painless peripheral lymphadenopathy (70%), most often cervical localization (60-80%), extranodal localization of LH is less common than in non-Hodgkin's lymphoma (NHL), representing about 5% in 10% of cases [3]. Thyroid localization of LH is even rarer, occupying the fourth rank of primary thyroid lymphomas (PTL), which account for less than 5% of all diagnosed thyroid lymphomas [4]. The management of LTP does not differ from that of nodular lymphomas, thus for thyroid LH as for nodular LH the treatment is based on systemic polychemotherapy associated or not with radiotherapy, recourse to surgery is not indicated [2]. We report a case of a patient diagnosed with thyroid Hodgkin's lymphoma, through a total thyroidectomy.

OBSERVATION

This is a 22-year-old patient, with no particular pathological history, who presents with an increase in volume in the anterior part of the neck. The clinical diagnosis mentioned was multinodular goiter, for which total thyroidectomy was performed. On histological examination of the specimen, the left lobe and the isthmus have a homogeneous appearance, on the right lobe there is a whitish zone, more or less well limited, of 1.5 cm. On the microscopic level, it was a normo and macrovesicular hyperplasia of the two lobes and the isthmus, with the presence at the level of the right lobe, of a tumoral proliferation of a lymphomatous nature, made up of large cells with nuclei bulky irregulars with thin chromatin. Presence of binucleated and multinucleated cells with a polymorphic inflammatory stroma represented mainly by mature lymphocytes associated with a few histiocytes, plasma cells and polymorphonuclear eosinophils (Figure 1). Fibrous bands run through the proliferation creating a nodular

appearance (Figure 2). The immunohistochemical study shows the positivity at the tumor cell level of CD30, CD15 and focal PAX5; CD20 and CD5 are negative (Figure 3) and (Figure 4). The diagnosis of classic Hodgkin's lymphoma of the sclero-nodular type was retained. After diagnostic confirmation by immunohistochemistry, the patient was subjected to chemotherapy under the ABVD protocol (adriamycin, bleomycin, vinblastine and dacarbazine) prescribed every fourteen days for six to twelve sessions and radiotherapy, which is currently going well.

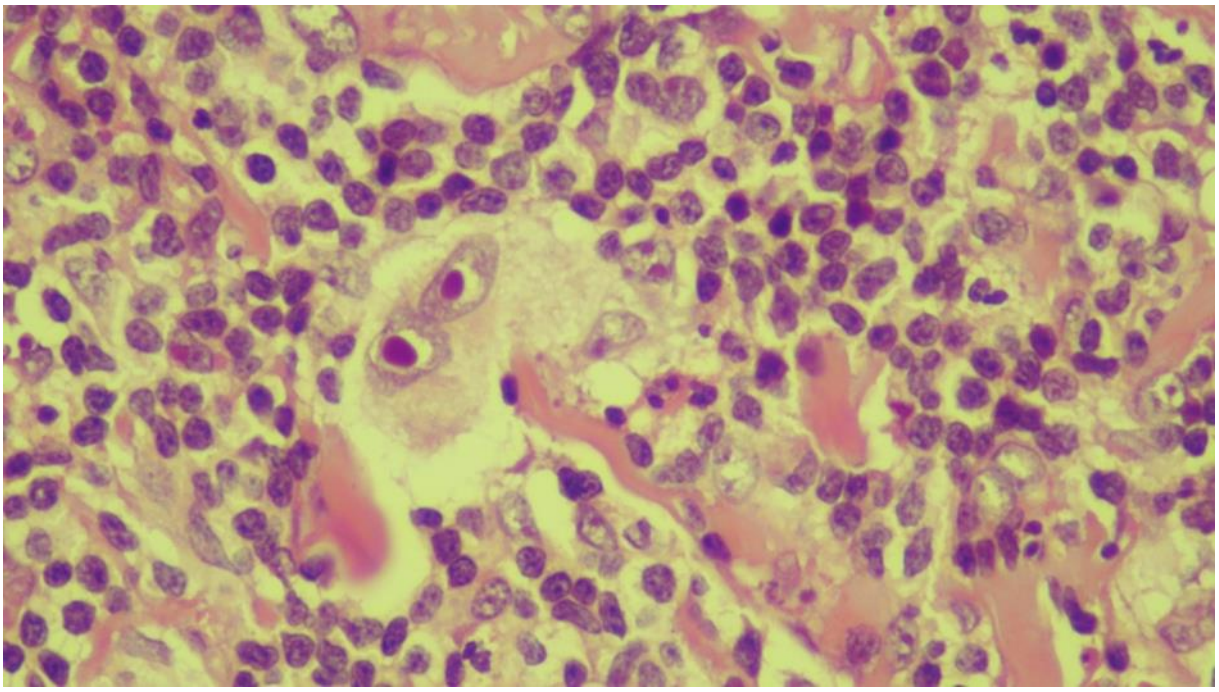

Fig 1: Tumor proliferation with large binucleate cells on a lymphocytic background

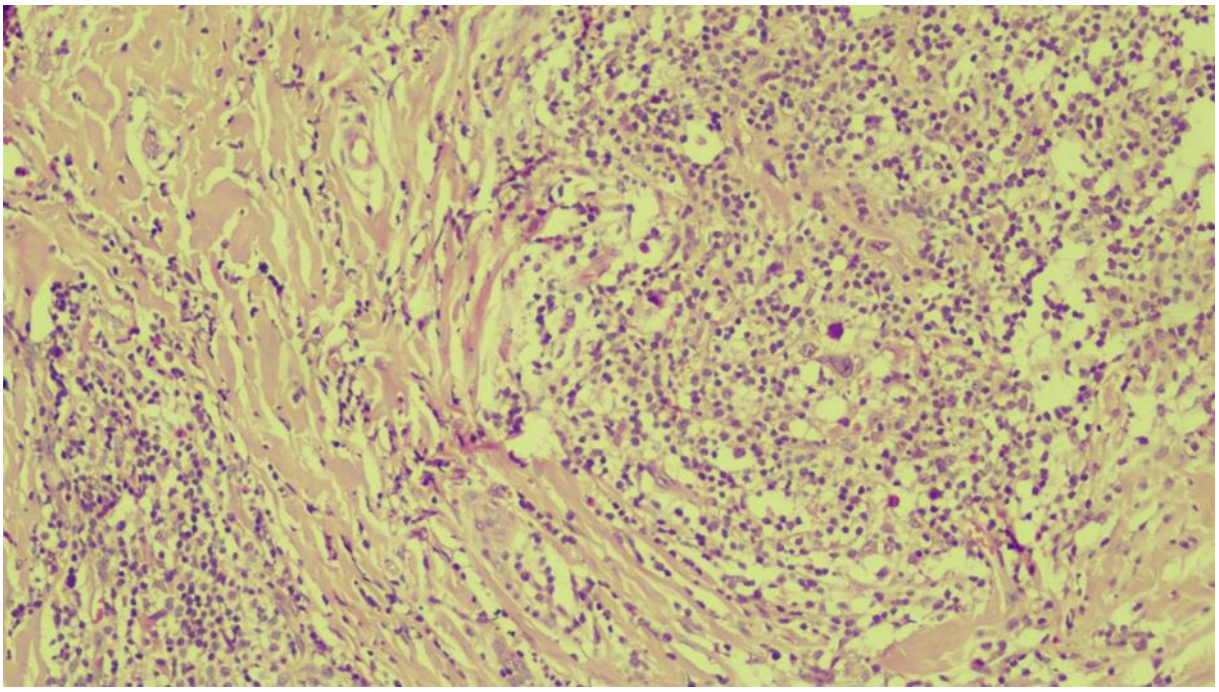

Fig 2: Tumor proliferation separated by fibrosis

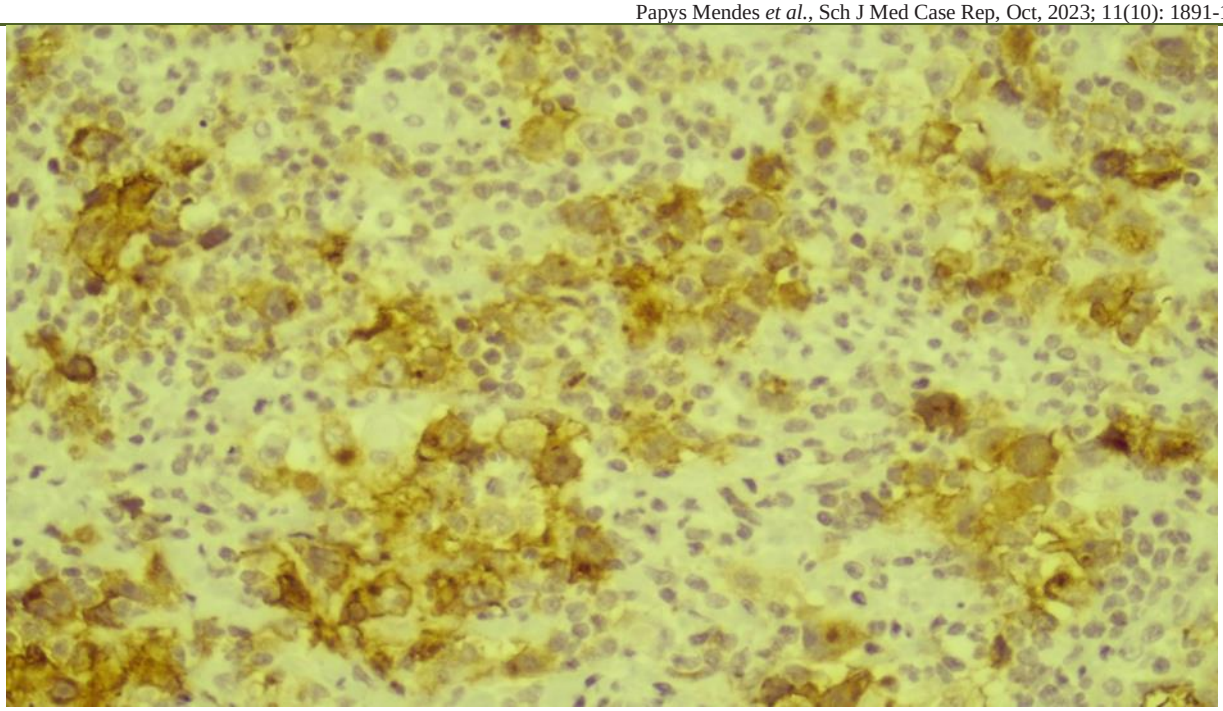

Fig 3: CD30 positive in large tumor cells

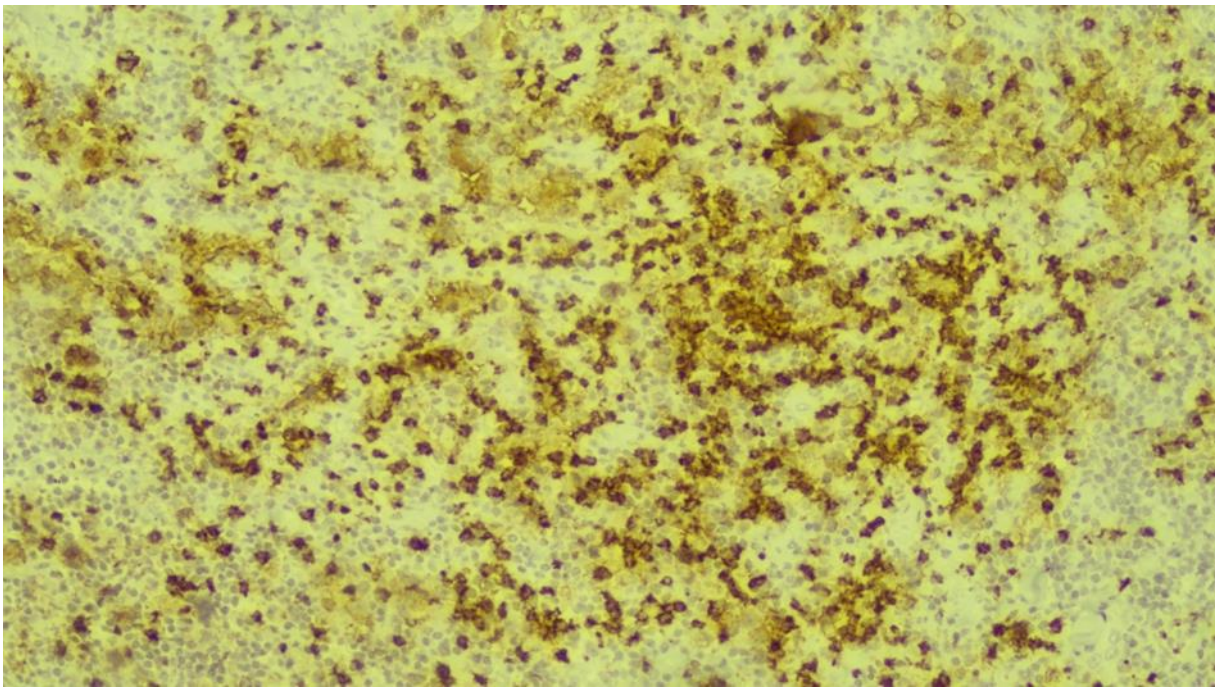

Fig 4: Positive in large tumor cells

DISCUSSION

Thyroid lymphomas are a very rare entity, they represent less than 5% of all thyroid cancers and up to 7% of all extranodal lymphomas [2]. By their definition, they only involve the thyroid with or without local neck lymph node involvement. Another condition that occurs beyond these limits at the time of first diagnosis, primary thyroid lymphoma, should be ruled out. This damage can come either from neighboring sites by regional tissue infiltration, or from other distant regions in the form of metastatic spread [5].

The majority of thyroid lymphomas are of the non-Hodgkin type with the predominance of diffuse large B-cell lymphoma up to 70% followed by marginal zone B-cell lymphoma (MALT) [6]. While Hodgkin's lymphoma of the thyroid gland is extremely rare, it accounts for 0.6-5% of all thyroid tumors and 7% of thyroid lymphomas [7]. Primary Thyroid Lymphoma of the Hodgkin type mainly affects women (75-80% of patients) with a median age of 42 years at diagnosis, as reported by Sa A Wang et al, in a study of 5 cases [2] and

by P. Sánchez-Velaa *et al*., in a table gathering the cases described in the literature [8].

The causes of primary Hodgkin's lymphoma of the thyroid remain unknown, but the risk of developing this pathology is linked to Hashimoto's thyroiditis (HT) which is an autoimmune disease that induces lymphocyte proliferation in the thyroid, that is- that is, it induces the presence of lymphocytes in a lymphoid-free tissue [9].

Our patient is 22 years old and had a clinical presentation made of an increase in volume at the level of the anterior part of the neck (a mass), with dysphagia as it has been reported in the literature some patients with thyroid LH presented a enlargement of the thyroid gland or a thyroid mass, with symptoms related to compression [10]. Most of the reported cases also presented with cervical lymphadenopathy. The sclero-nodular form presented by our patient is the most described form, followed by the form with mixed cellularity [8]. Our patient is diagnosed with the nodular scleroform, but without having presented cervical lymphadenopathy. Only one reported case had the nodular lymphocytic form of Hodgkin's lymphoma [11]. They generally have a good prognosis if treated early. Currently, the objective is to try to reduce the toxicity of the treatment, while maintaining its effectiveness. Primary Hodgkin's thyroid lymphomas are treated as for nodal Hodgkin's lymphomas, by combination of polychemotherapy and radiotherapy [12], our patient had chemotherapy under the ABVD protocol (adriamycin, bleomycin, vinblastine and dacarbazine) prescribed every fourteen days for six to twelve sessions and radiotherapy.

Conflict of interest: The authors declare that they have no conflict of interest.

CONCLUSION

The thyroid localization of lymphomas is rare, and even rarer by Hodgkin lymphomas, their appearances are associated with cases of chronic thyroiditis and have a good prognosis if the treatment is done early.

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