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PRIMARY NON-HODGKIN'S LYMPHOMA OF THYROID – A CASE REPORT

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ABSTRACT

The aim of the article is to present a case of primary malignant lymphoma of thyroid, which is relatively uncommon representing less than 5% of thyroid malignancies. On fine-needle aspiration of thyroid, it was suggestive of lymphocytic thyroiditis and frozen section was not conclusive. On histopathology diagnosis of primary Non Hodgkin's Lymphoma (NHL) of the thyroid was made, later confirmed by immunohistochemistry. Although primary NHL of thyroid is not prevalent, it is highly curable with chemotherapy in combination with radiotherapy and without extensive surgery. So, early diagnosis is essential for proper treatment.

KEYWORDS

Immunohistochemistry, Primary Non Hodkins lymphoma, Thyroid.

INTRODUCTION

Primary malignant lymphoma of the thyroid is relatively uncommon representing less than 5% of thyroid malignancies. The thyroid gland contains no native lymphoid tissue. Intrathyroid lymphoid tissue has occurred in various pathological conditions, but more evidently in the course of autoimmune thyroid disease, notably chronic autoimmune thyroiditis (Hashimotos thyroiditis). Histologically, this acquired lymphoid tissue can evolve to lymphoma, including MALT type. Clinically it is characterized by an indolent course and a prognosis better than that of non-MALT lymphomas [1].

Non Hodkins Lymphoma (NHL) of the thyroid gland presents during the sixth and seventh decades of life with a rapidly growing, painless neck mass with or without obstructive symptoms. NHL originates predominately from B-cells in particular the large cell histological type [1, 2].

The association between NHL and Hashimoto thyroiditis has been reported between 30%-70%. NHL has been linked with mucosa-associated lymphoid tissue (MALT) malignancies. These lymphomas remain localized for a prolonged period of time, which accounts for the high prevalence of early disease confined to the thyroid gland and local lymph node involvement at initial presentation [2].

CASE SUMMARY:

We report a man in the sixth decade presenting with a rapidly enlarging neck swelling since 3 months. There was history of pain with deglutition. Fine-needle aspiration reported lymphocytic thyroiditis and suggested further evaluation to rule out lymphoma of the thyroid.

On clinical examination, the thyroid was diffusely enlarged, most prominent on the right side, firm and painless. No history of lymphadenopathy. The patient was clinically and biochemically hypothyroid. Serum T4 was 4.8 µg/dl (normal, 5-12) and serum TSH was 6.8 mU/l (normal, 0.4-4.6). Antithyroglobulin antibodies were positive (1:100), and antimicrosomal antibodies were not detected.

Ultrasound examination revealed hypoechoic areas in both lobes but no cysts. Frozen section was inconclusive. Subtotal thyroidectomy was performed and surgical specimen was sent for histopathological evaluation.

PATHOLOGY

MACROSCOPY

The surgical specimen contained a 5 X 4 X 3.5cms nodule. Cut surface firm, solid, grey-white to tan. Serial sections were taken for histologic evaluation. (**Fig-1**)

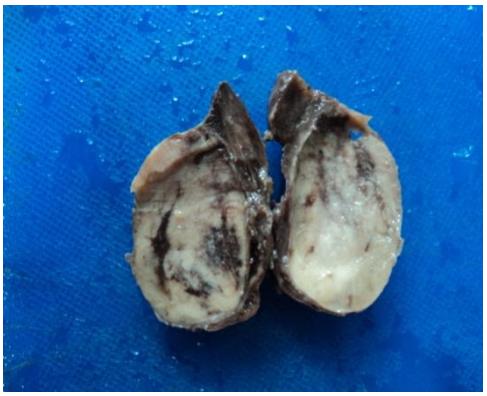

Figure 1. Gross – Cut surface showing solid grey white areas.

MICROSCOPY:

Microscopic examination revealed a diffuse lymphoid infiltrate effacing the normal thyroid parenchyma in a background of a chronic lymphocytic thyroiditis, with hyperplastic lymphoid follicles and oncocytic change within the follicular epithelium. The thyroid parenchyma was diffusely replaced by a dense atypical lymphoid infiltrate composed of monocytoid lymphocytes with small or slightly irregular nuclear contours, condensed nuclear chromatin, inconspicuous nucleoli, and abundant pale cytoplasm (**Fig-2**). Centrocyte-like (cleaved) cells, small lymphocytes, plasma cells and occasional centroblast or immunoblast-like large cells were also evident (**Fig-3**). These cells gave rise to numerous lymphoepithelial lesions with packed acini. In almost all areas follicular epithelial cells were seen as abundant granular eosinophilic cytoplasm, with some prominent macronucleoli that are characteristic of Hurthle cells. Immunohistochemistry (IHC) of the tissue showed CD20 to be positive, and CD3 to be negative (**Fig-4**). Based on histopathology, diagnosis of primary Non Hodgkin's Lymphoma of the thyroid was made, which was confirmed by immunohistochemistry.

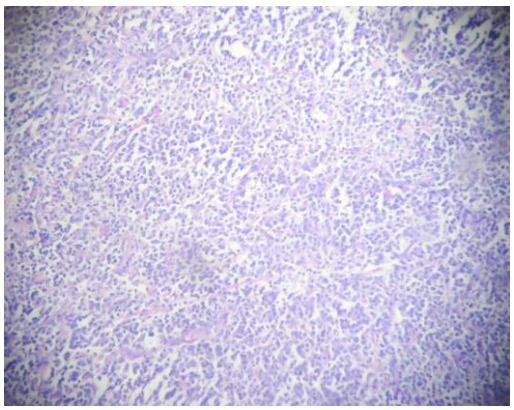

Figure 2. Low power showing sheets of monotonous population of tumour cells. (100x)

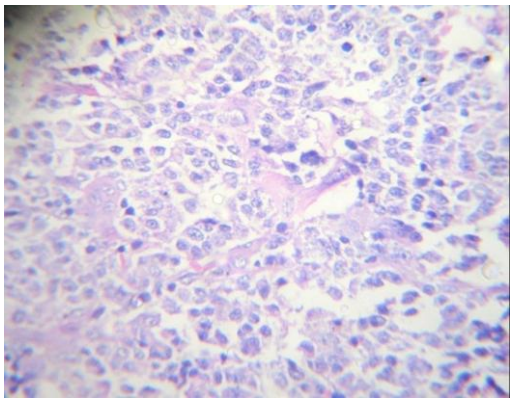

Figure 3- High power showing cleaved centrocytes and centroblasts. (400x)

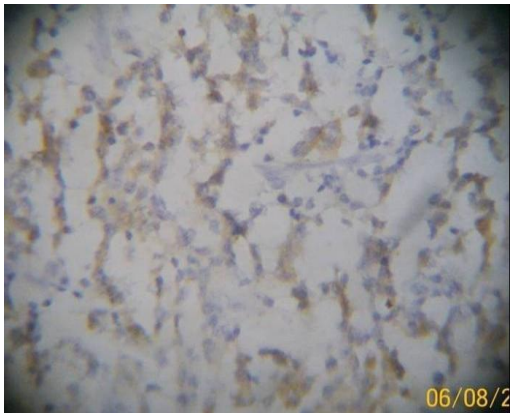

Figure 4. Immunohistochemistry: Positive for CD 20.

DISCUSSION

Primary thyroid lymphoma represents approximately 1-5% of thyroid malignancies and less than 2% of extranodal lymphomas. It continues to produce diagnostic and therapeutic dilemmas.[1] Hashimoto's thyroiditis appears to be a risk factor though the association is not completely understood [3].

Thyroid lymphomas can be divided into non-Hodgkin's lymphomas (NHL) of the B- and T-cell types and Hodgkin's lymphomas. Mucosa-associated lymphoid tissue (MALT) lymphomas are a subset of B-cell NHL. Pathologically, most thyroid lymphomas are non-Hodgkin's lymphomas of B-cell origin. Thyroid lymphomas can be divided into two distinct clinicopathologic scenarios - pure MALT lymphomas and diffuse large B-cell types or mixed histological subtypes. They may also be divided into one of two groups: low- or high-grade [1, 4].

Open surgical biopsy is required in several cases and still plays a role despite advances in Fine-Needle Aspiration Cytology (FNAC) and its adjuncts.[5] Immunohistochemical studies are useful in diagnosis and excluding anaplastic carcinoma, B-cell chronic lymphocytic leukemia (B-CLL), mantle-cell lymphoma and follicle-center lymphoma. MALT lymphomas express B-cell-associated surface antigens CD20, CD22 and CD79a, and are CD5-, CD10-, and CD23-negative [5,6]. In our case, on fine needle aspiration, it was diagnosed as lymphocytic thyroiditis, frozen section was inconclusive, histopathology was diagnostic and immunohistochemistry was confirmative.

The treatment is mainly radiotherapy and chemotherapy at present, the role of surgery being minimal. Prognosis is generally excellent,

especially for lymphomas confined to the thyroid [5,6]. In our case, lymphoma was confined to thyroid, and patient is under follow up and is keeping well.

CONCLUSION

Primary lymphoma of thyroid is a rare disease and difficult to differentiate from anaplastic carcinoma and the metastatic lesions. In these cases immunohistochemistry can be helpful in the early diagnosis.

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