International Surgery Journal
Abraham LK et al. Int Surg J. 2014 May;1(1):53-55
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902
DOI: 10.5455/2349-2902.isj20140517

Case Report

Fine needle aspiration cytology of primary thyroid lymphoma

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Received: 23 April 2014
Accepted: 27 April 2014

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ABSTRACT

A 77 year old female presented with a rapidly growing thyroid swelling. The cytologic findings were suggestive of large cell lymphoma. The diagnosis of diffuse large B cell lymphoma was confirmed by histology and immunohistochemistry. Primary thyroid lymphomas are extremely uncommon neoplasms which if diagnosed cytologically can prevent unnecessary surgery.

Keywords: Non-Hodgkin's lymphoma, Thyroid, FNAC

INTRODUCTION

Non-Hodgkin's lymphoma arising primarily from the thyroid is a rare condition comprising 5% of all thyroid malignancies.[1] Fine Needle Aspiration Cytology (FNAC) plays an important role in the diagnosis of thyroid lymphoma. If diagnosed cytologically, surgery can be avoided in these cases. There are only a few case reports of fine needle aspiration cytology of primary thyroid lymphoma in literature.[2-4]

Herein we report the FNAC findings of a rare case of primary thyroid lymphoma with review of the literature.

CASE REPORT

A 77 year old female presented with a swelling in front of the neck of three months duration. There was no history of any previous radiation therapy. The patient was initially thyrotoxic which was later controlled with medication. On examination there was a firm swelling measuring 8x5 cm. in front of the neck moving with deglutition. A lymph node measuring 2x1 cm, was palpable on the right side. Ultrasonogram showed features of chronic thyroiditis. FNAC was done. Wet fixed smears were stained by haematoxylin and eosin stains (H & E) and air dried smears were stained by May-Grunwald Giemsa (MGG) stain. The smears showed mainly necrotic material. Some areas showed cells scattered singly in sheets. The cells were round with moderate cytoplasm and vesicular nuclei some with nucleoli (Figure 1). No follicular cells or colloid were seen. With these features a diagnosis of poorly differentiated malignant neoplasm, possibly large cell lymphoma was suggested. Subsequently thyroidectomy was done.

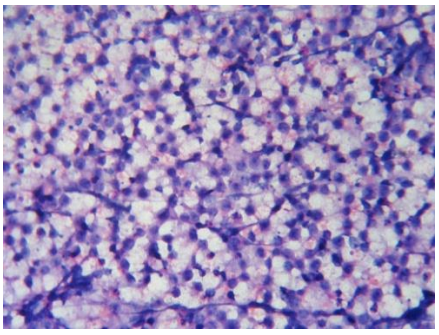

Figure 1: Smear showing lymphoid cells with vesicular nuclei and prominent nucleoli (H&E, 400X).

The thyroidectomy specimen on cut section showed an irregular white fleshy mass measuring 5×3 cm, involving the right lobe of thyroid. The left lobe showed focal white areas. Microscopy showed a neoplasm composed of cells arranged in sheets. The cells were round with moderate cytoplasm and vesicular nuclei some showing prominent nucleoli. Foci of necrosis were observed (Figure 2). In areas the cells were small with scanty cytoplasm and cleaved nuclei. Lymphoepithelial lesions were seen (Figure 3). The neoplastic cells were LCA and CD20 positive (Figure 4). The adjacent areas showed features of Hashimoto's thyroiditis. The final diagnosis on histology and immunohistochemistry was Marginal zone lymphoma of thyroid with diffuse large B cell areas arising in a background of Hashimoto's thyroiditis.

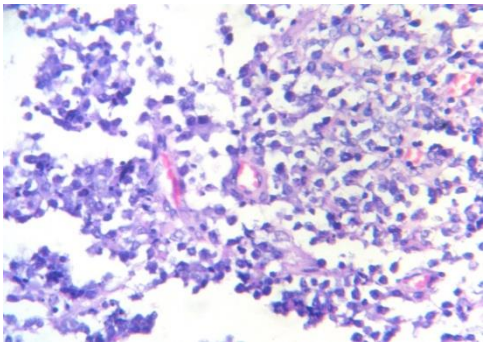

Figure 2: Biopsy showing similar cells in sheets and residual thyroid follicles (H&E, 400X).

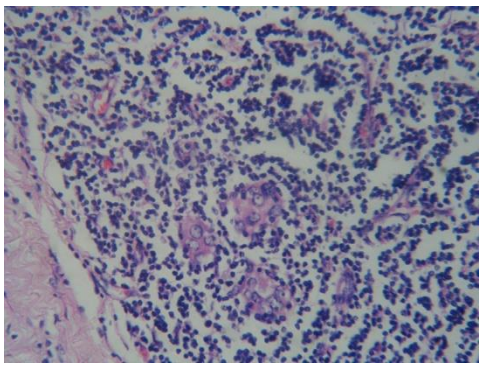

Figure 3: Areas with small cleaved cells and lymphoepithelial lesion (H&E, 400X).

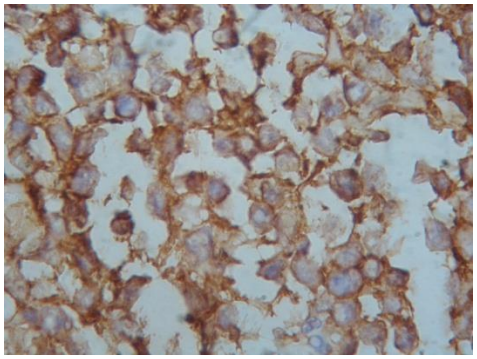

Figure 4: The cells are positive for CD20 (1000X).

DISCUSSION

Primary thyroid gland lymphomas are uncommon malignant neoplasms. They have been estimated to represent approximately 5% of all thyroid malignancies and 2.5-7% of all extranodal lymphomas.[1] They occur commonly in older individuals with a female to male ratio of 3.7:1. Presenting symptoms include pressure symptoms and features of hypothyroidism.[5] Most thyroid lymphomas are of B cell lineage and of MALT type. There are both low grade and high grade forms. The majority are associated with Hashimoto's thyroiditis.

FNAC is a useful tool in the diagnosis of primary thyroid lymphoma. High grade lymphomas are usually diagnosed as malignancy on FNAC. They are more common than low grade lymphomas of thyroid. The smears in these cases show a dispersed population of large abnormal lymphoid cells. Important differential diagnosis for high grade lymphomas are small cell anaplastic carcinomas from which they can be differentiated based on certain cytological features. Cell clustering, nuclear moulding and smearing artefact favour small cell carcinoma.[6]

The low grade lymphomas may be mistaken for chronic thyroiditis.[2,6,7] In smears of low grade lymphoma a mixed cell population including many plasma cells, suggestive of a florid reactive process may be seen. Tsuruta S et al.[7] compared the cytological findings of primary thyroid MALT type lymphomas with those of Hashimoto's thyroiditis. The presence of a large number of centrocyte like cells and the presence of lymphoepithelial lesions are important diagnostic findings for MALT lymphoma in cytology specimens.

Non-Hodgkin's lymphoma should be considered in the differential diagnosis of poorly differentiated malignant neoplasm of thyroid in FNAC, especially when there is a dispersed population of cells. If diagnosed cytologically, unnecessary surgery can be avoided in thyroid lymphoma.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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DOI: 10.5455/2349-2902.isj20140517
Cite this article as: Abraham LK, Matthai A, Thomas S, Joseph E. Fine needle aspiration cytology of primary thyroid lymphoma. Int Surg J 2014;1:53-5.