Case Report
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Primary Hodgkin's Lymphoma of Thyroid Simulating Subacute Thyroiditis: A Case Report

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Abstract

Primary thyroid lymphoma is rare, with the majority of cases being non-Hodgkin and occurs in patients with autoimmune thyroid disease. Primary thyroid Hodgkin's lymphoma is extremely rare and only about 20 previous cases have been reported. We report a 24-year-old woman presented with one month history of fever and anterior neck pain. She had left side thyroid enlargement and tenderness, high erythrocyte sedimentation rate, suppressed thyroid stimulating hormone and elevated free thyroxine. Thyroid technetium scan revealed low uptake in left lobe of thyroid compatible with subacute thyroiditis. Initially she was treated with prednisolone without any clinical response. Fine needle aspiration of thyroid was performed which was in favor of malignancy. She underwent left thyroid lobectomy. Pathology and immunohistochemistry investigations showed classical Hodgkin's lymphoma. Imaging studies revealed no extra thyroid involvement. She received chemotherapy with good response and has been disease free in past seven years. Although anaplastic thyroid carcinoma, non-Hodgkin lymphoma and metastasis to the thyroid can mimic subacute thyroiditis, this is the first reported case of primary Hodgkin's lymphoma with such presentation. We conclude that in patients with subacute thyroiditis and poor response to treatment, malignancies including Hodgkin's lymphoma should be considered. Early tissue diagnosis leads to timely initiation of treatment and better prognosis.

Keywords: Thyroid, Head and neck neoplasms, Thyroid neoplasms, Case report

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Introduction

Primary thyroid lymphoma is rare and comprises 1-5% of thyroid malignancies.[1] In primary thyroid lymphoma, thyroid is the only involved organ. Most of these lymphomas are non-Hodgkin.[1] Subacute thyroiditis (SAT) is a common thyroid disease probably caused by viral infection.[2] Here, we present a young woman presented with clinical and laboratory data

favoring diagnosis of SAT, but further investigations revealed primary Hodgkin's lymphoma (HL) of thyroid.

Case Presentation

A 24-year-old woman had developed left side neck pain and bulging associated with fever for one month duration. She referred to a physician with left side thyroid enlargement and tenderness. Her lab data showed erythrocyte sedimentation rate (ESR): 65 mm/h (normal:0-22), thyroid stimulating hormone (TSH): 0.08 mu/L (normal:0.3-4.5) and free thyroxine (T4):2.2ng/dL (normal: 0.7-1.4). Anti-thyroid peroxidase and anti-thyroglobulin antibodies were normal. Technetium thyroid scan revealed decreased uptake in left side compatible with localized thyroiditis (Figure 1). There was no family history of thyroid disease and malignancies. With impression of SAT, she was given 40 mg/day prednisolone but after one week there was no clinical response. She referred to our center at Shiraz University of Medical Sciences in September 2017. In physical examination left thyroid lobe was enlarged and tender and a 4cm mass was detected. Fine needle aspiration (FNA) of the mass was performed which revealed many lymphocytes, markedly atypical cells with large irregular nuclei, multinucleated atypical cells with prominent nucleoli and many lymphocytes in favor of malignancy. In neck magnetic resonance imaging there was left side inhomogeneous thyroid enlargement encasing left common carotid artery. No cervical lymphadenopathy was detected (Figure 2).

She underwent surgery and partial left lobectomy was performed. The pathology report revealed classical HL (Figure 3) and the diagnosis was confirmed by immunohistochemistry (IHC) in which CD15, CD30, and PAX5 were positive and CD3 and CD20 were negative in large cells. Computerized tomography scan of chest,

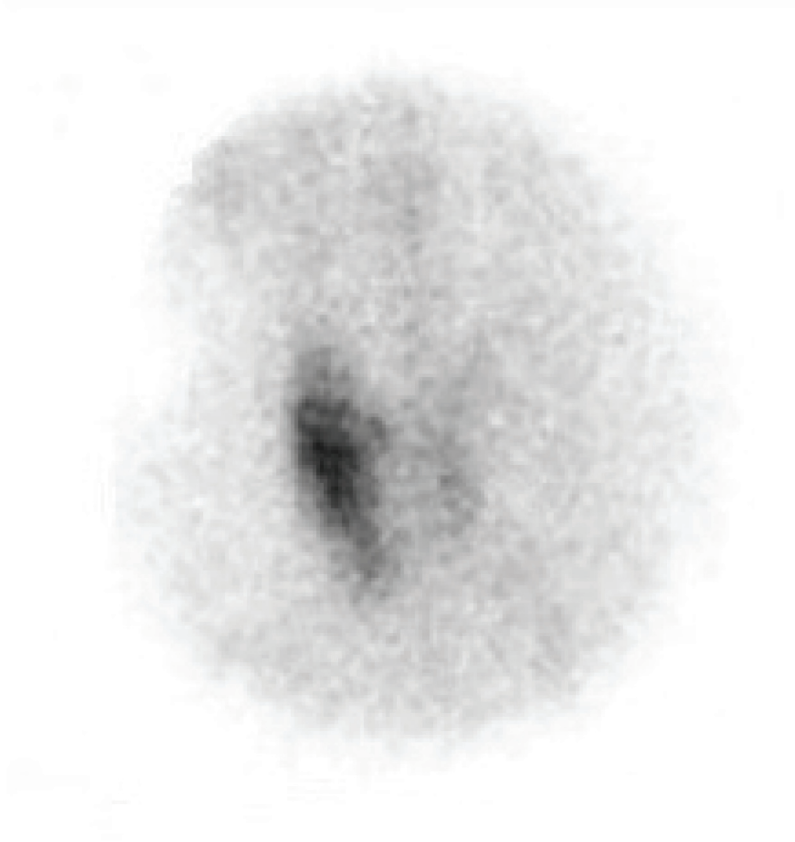

Figure 1. Thyroid technetium scan shows decreased uptake of left lobe in favor of localized thyroiditis

mediastinum, abdomen and pelvis were normal. The patient was referred to oncology department. She received 4 cycles of adriamycin, bleomycin, vincristine and dacarbazine with good results. She has been taking 50 micro gram levothyroxine daily and has been disease free till now.

This study was approved by the Ethics Committee of Shiraz University of Medical Sciences (IR.SUMS.REC.1403.467).

Discussion

Primary thyroid HL is extremely rare. From 1962 up to 2017 only 17 cases were reported[3] and we found 3 additional cases since 2017.[4, 5, 6] The usual presentation of previous reported cases of primary HL of thyroid has been enlarging thyroid mass over months or years with or without pressure symptoms and normal thyroid function tests.[3] Our patient had a more rapid course. There was no history of previous thyroid disease and thyroid autoantibodies were negative. The relation between primary thyroid HL and autoimmune thyroid disease is poorly understood due to the small number of patients3 and it may occur in patients without previous autoimmune thyroid disease.[3, 6] Imaging studies showed no lymph adenopathy which rules out secondary involvement of thyroid by HL. Initial presentation

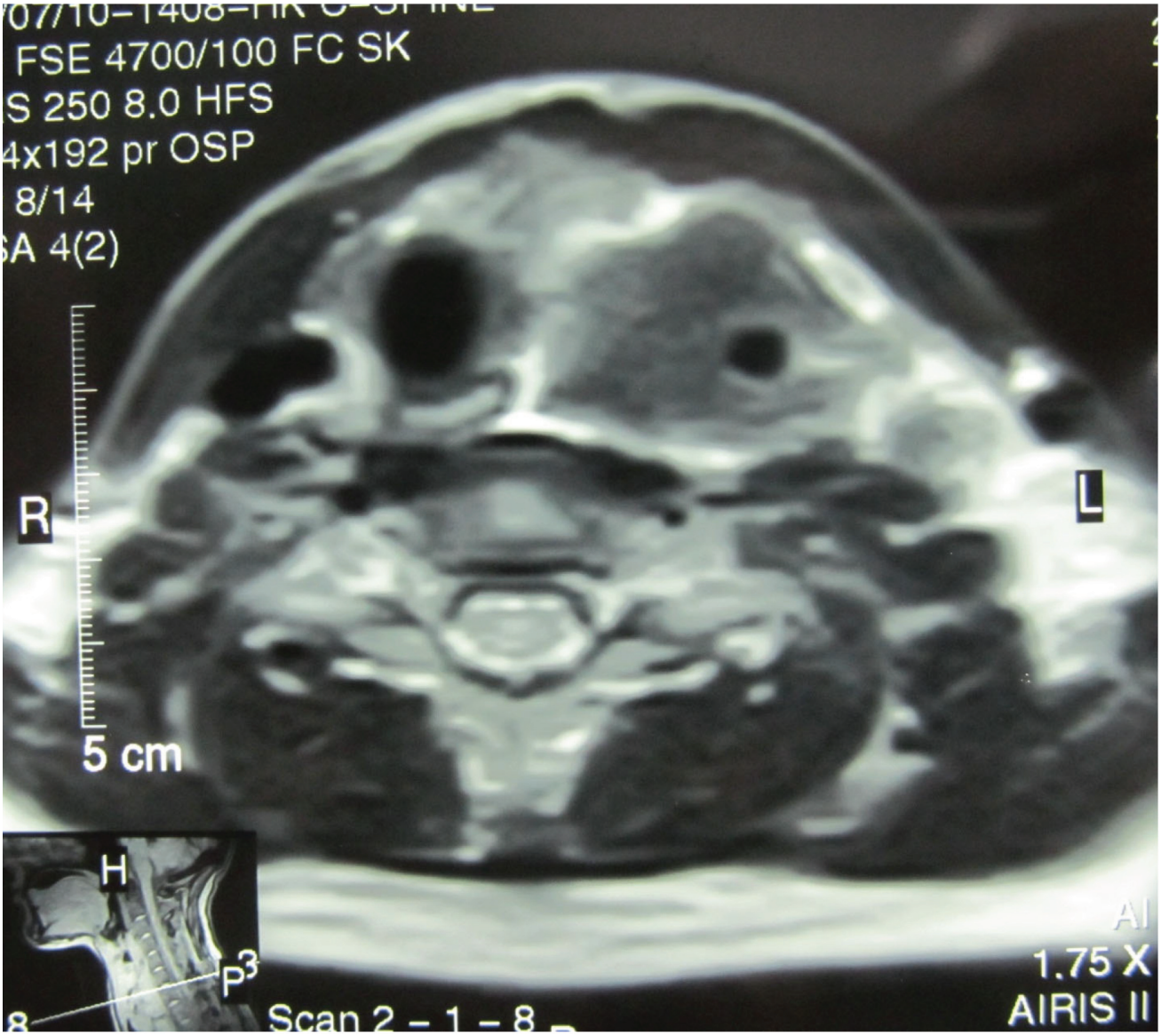

Figure 2. Magnetic resonance imaging of thyroid shows left side inhomogeneous thyroid enlargement encasing left common carotid artery.

of our patient mimicked SAT. In SAT patients present with diffuse or localized enlargement of thyroid associated with pain, tenderness and fever. Paraclinical findings as in our case, include high ESR, suppressed TSH, elevated free T4 and low uptake in thyroid technetium scan.[7] These patients respond rapidly to treatment with glucocorticoid. In primary thyroid lymphoma (Hodgkin and non-Hodgkin) thyroid hormones are usually normal but rarely thyroid involvement by lymphomatous cells can destroy thyroid cells and release stored thyroid hormone leading to elevated free T4 and suppressed TSH.[8] Stasiac et al. reported 5 cases of primary and metastatic thyroid tumors presenting as SAT.[9] It included a 19-year-old patient with signs and symptoms of SAT and after 1 month he was found to have HL with metastasis to thyroid. Our case is the first reported case of primary thyroid HL presenting with clinical and paraclinical signs of SAT. Anaplastic[10] and non-Hodgkin lymphoma[8,9] can mimic SAT. Poor response to initial treatment should alert the physician to possibility of malignancy and performance of tissue diagnosis.

In our patient, FNA was diagnostic of malignancy but could not classify it. In cases of lymphomas FNA may be misleading and the result may be reported as chronic lymphocytic thyroiditis.4 Large needle or excisional biopsy may be needed for proper diagnosis6. Surgical management of primary thyroid lymphoma is controversial. It is generally reserved for diagnostic purpose and relieving pressure symptoms.[6]

Our patient, as in other related cases, had good response to chemotherapy and primary HL of thyroid has good prognosis.

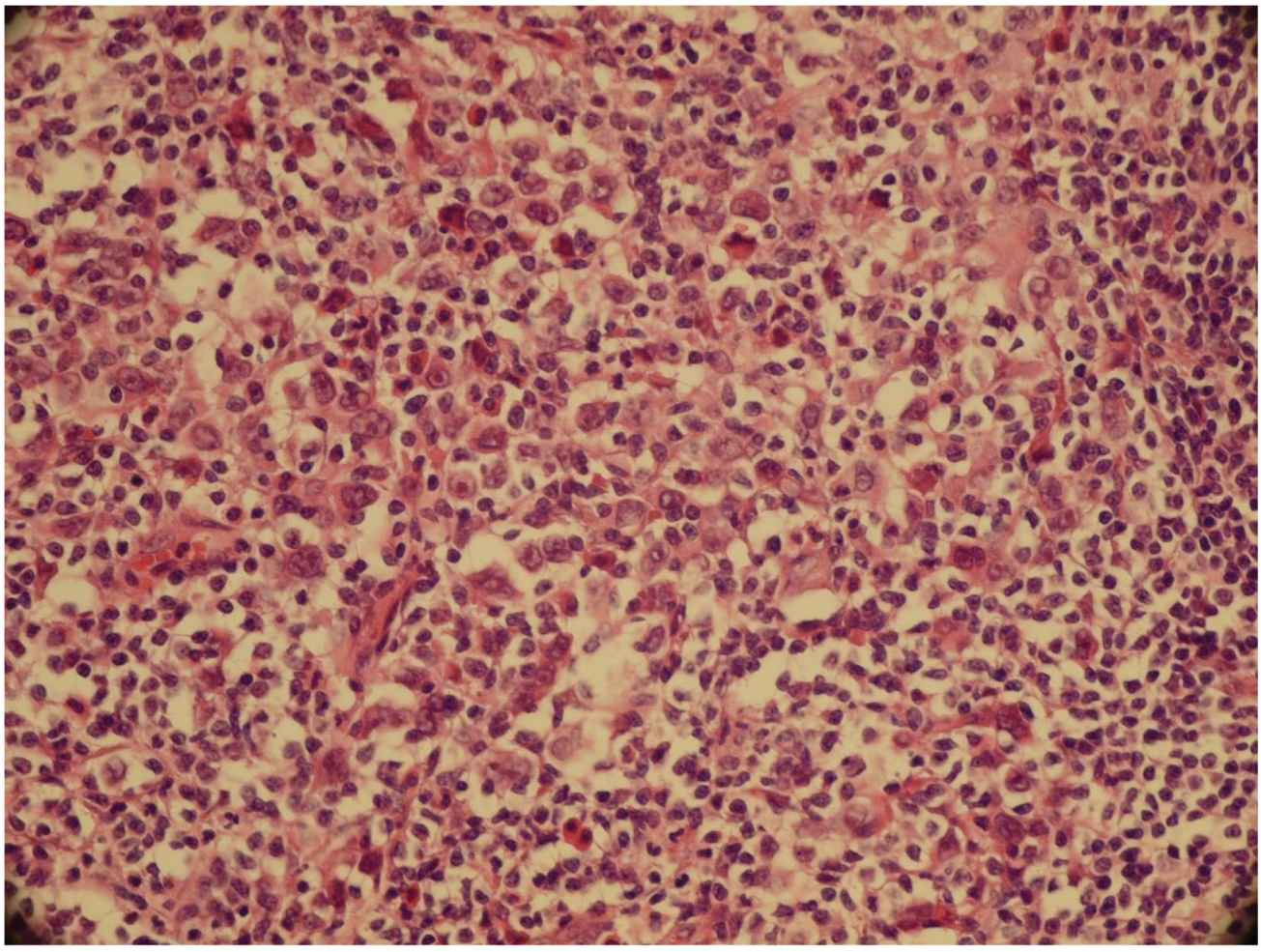

Figure 3. Histopathologic examination by hematoxyline and eosin stain of thyroid tissue shows large bineucleated atypical cells and many lymphocytes in favor of classical Hodgkin's lymphoma (magnification ×400).

Conclusion

In patients with signs and symptoms of SAT and poor response to treatment, malignancies including HL should be considered.

Informed Consent

Written informed consent was obtained from the patient for publication her case and imaging.

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Authors' Contribution

M.S.: Study concept; data acquisition; data analysis and interpretation; drafting and critical reviewing of the manuscript.

S.S.: Study design; data acquisition; data analysis and interpretation; drafting and critical reviewing of the manuscript.

Both authors read and approved the final manuscript version and agreed with all parts of the work in ensuring that any queries about the accuracy or integrity of any component of the work are appropriately investigated and handled.

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Conflict of Interest

None declared.

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