# A rare case of classical Hodgkin lymphoma of the thyroid gland

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## Background:

- Hodgkin lymphoma (HL) is classically a disease of the lymph nodes and only in around 5 % of the cases does it occur in extra-nodal sites [1, 2].
- Primary thyroid lymphomas comprise less than 5% of all thyroid malignancies and most of these are non-Hodgkin lymphomas [3].
- Only a few cases of HL of the thyroid have been reported. In most of these cases, fine-needle aspiration biopsy (FNAB) has demonstrated low sensitivity for diagnosis.[4].

## Case description:

- A 51-year-old lady with hypertension presented to us with a rapidly enlarging neck mass associated with progressive shortness of breath and difficulty swallowing for four months.
- She was clinically euthyroid and denied a personal or family history of thyroid disease or neck irradiation. TSH was 2.49 mIU/L (0.5-5.0), total T4 was 6.2 µg/ dl (5-12) and, total T3 was 84 ng/dl (80-220).
- A thyroid ultrasound revealed a 5.3 cm nodule (Fig.1) in the right thyroid lobe that was hypoechoic, wider than tall, with smooth margins, and another 1.9 cm nodule (Fig.2) in the left thyroid lobe that was hypoechoic and taller than wide.
- A CT scan of the neck showed the above-mentioned thyroid nodules and lymphadenopathy up to 0.9x0.6x1.2 cm in the left lateral aspect of the thyroid (Fig.3).
- FNAB of the nodules revealed Hurthle cells in a background of crushed lymphoid cells with occasional large atypical lymphoid cells.
- Because of high clinical suspicion for lymphoma, a repeat FNAB and flow cytometry was performed which showed no evidence of lymphoma.
- A repeat CT of the neck performed when she was hospitalized with dyspnea revealed middle mediastinal lymphadenopathy and a large 8x4.7x4.7 cm neck mass contiguous with the thyroid with an associated 3.8 cm cystic collection within.
- Owing to her classic clinical features of rapidly enlarging neck mass and lymphadenopathy indicative of lymphoma, a consultation with an oncologist was arranged.

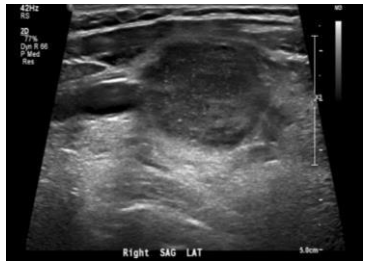


Fig. 1

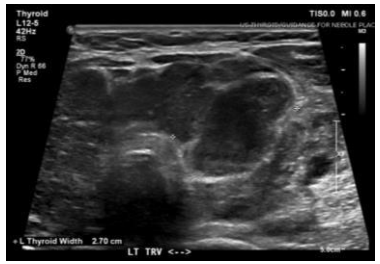


Fig. 2

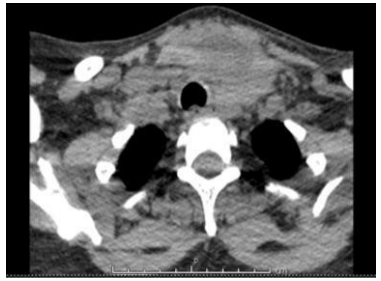

Fig. 3

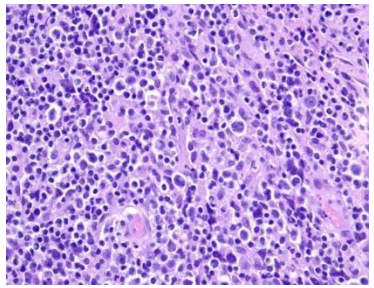

Fig. 4

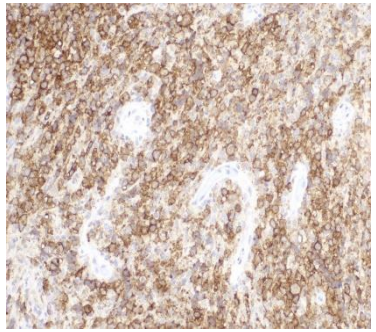

Fig. 5:IHC: CD30+

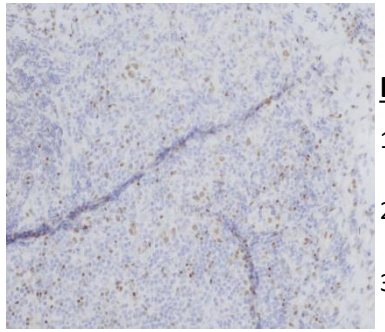

Fig.6:IHC:PAX5+

- Her worsening symptoms lead to another hospitalization when she underwent a thyroid core needle biopsy which again failed to reveal her diagnosis. She then underwent partial thyroidectomy for symptom relief.
- Histopathological examination of surgical specimens demonstrated infiltrates of small lymphocytes with histiocytes, interspersed with clusters of large, irregular, multilobate cells with prominent nuclei consistent with Reed-Sternberg (RS) cells ( Fig.4).
- Immunohistochemistry (IHC) showed that these cells were strongly positive for CD30+ (strong), MUM1+ (strong), and PAX5+ (dim) and negative for CD20- and CD45- [Fig. 5-6]. This is consistent with a diagnosis of nodular sclerosing variant of classical HL.
- Chemotherapy for HL was instituted with rapid recovery.

## Clinical Significance:

- Primary HL of the thyroid is extremely rare and most often presents as a rapidly enlarging neck mass with or without compressive symptoms.
- Diagnosis with FNAB is challenging especially when RS cells are not numerous as the biopsy sample may not contain these cells leading to a false negative pathology. In addition, the poly-clonal nature of background lymphocytes may result in false negative flow cytometry results. In our patient, FNAB was performed twice and a core needle biopsy was performed as well which were falsely negative.
- As, the treatment of HL differs entirely from that of other primary thyroid malignancies and thyroiditis, a high index of suspicion is needed in patients presenting with classic symptoms to make an accurate and prompt diagnosis of HL.

## References:

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