

**Case report**

**Dyspnea on swallowing: a case of thyroid lymphoma**

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**Abstract**

Thyroid Hodgkin's lymphoma is infrequent occurrence that has four to one female preponderance. Most thyroid lymphomas are of B-cells lineage. In this case we present a primary Hodgkin's lymphoma in 45-year-old male patient who presented with gradual onset of upper airway obstructive symptoms. CT shows enlarged thyroid lobes with multiple nodal involvement and right internal jugular vein thrombosis. He was stridorous and was started on intravenous steroid. Right hemithyroidectomy was performed to alleviate the impinged airway as well as serving biopsy purpose. The histology confirmed diffuse B-cell non-Hodgkin's lymphoma. He responded well to treatment.

**Keywords:** Goiter; Hodgkin's; hormones supplement

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**Introduction**

Lymphoma is a solid tumour affecting human immune system. It consists of Hodgkin's and non-Hodgkin's type. Hodgkin's lymphoma account for 10% of all thyroid lymphomas and the remaining 90% are non-Hodgkin's type.<sup>1</sup> Lymphoma is primarily nodal base disease and it rarely involves extranodal sites.<sup>2</sup> Primary thyroid lymphoma is very uncommon, account for 2-5% of thyroid malignancy and less than 2.5% of malignant lymphomas.<sup>3</sup> It has four times female preponderance.<sup>4</sup>

**Case Summary**

A 45-year-old Malay gentleman with no medical illness, presented with painless anterior neck swelling for 2 months which was rapidly increased in size over one month. It was associated with worsening dysphagia and exertional dyspnea one week upon presentation. The dyspnea also worsened during swallowing. He also had slight hoarseness

but no aspiration symptoms. No symptoms of hypo or hyperthyroidism. There was no fever or any constitutional symptoms.

Examination revealed a medium-built gentleman not in respiratory distress. There was a huge multi-lobulated non-tender anterior neck swelling measuring 7x8 cm on right side and 10x9 cm on left side (Figure 1).



Figure 1: The thyroid mass from anterior and lateral views.

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The trachea and cervical lymph nodes was not palpable. The inferior border of the mass still can be appreciated. Laryngoscopy showed a reduced right vocal cord mobility, in paramedian position. The laryngeal inlet was still adequate. Nasoendoscopy was unremarkable. Computed tomography (CT) scan of the neck was performed showed a thyroid mass with multiple cervical lymph nodes and mass effect on trachea and oesophagus. The maximum tracheal compression was at C7 level whereby only 6 mm airway anteroposterior diameter left. The right internal jugular vein was thrombosed (Figure 2).

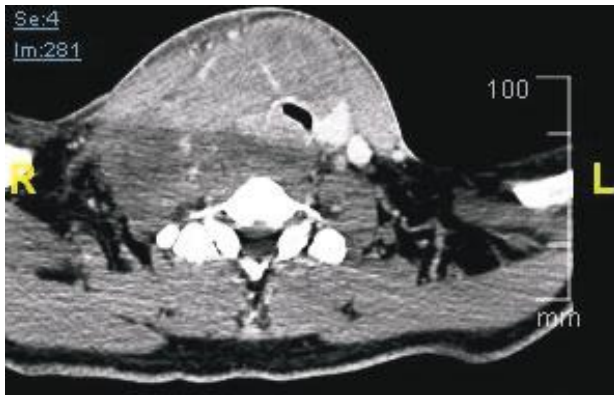


Figure 2: The heterogeneously enhanced thyroid mass encasing the trachea and compressing the collapsed oesophagus to the left.

**Ethical approval:** This case report is ethically approved by local ethics committee

### Discussion

Lymphoma of thyroid glands is rare. It could arise from long standing thyroiditis and should be suspected in patients with a rapidly enlarging neck mass, especially in women with Hashimoto's

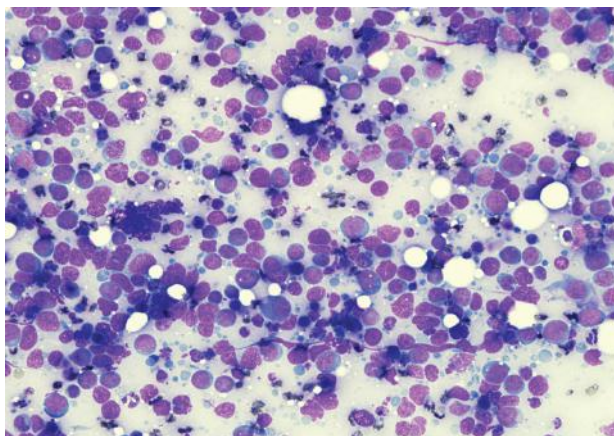


Figure 3: Smears showed dispersed neoplastic lymphoid cells with scattered lymphoglandular bodies in the background.

thyroiditis.<sup>5</sup> This patient did not seek treatment earlier regarding his thyroid function indicating he was most probably euthyroid. The question arises, is this a primary thyroid lymphoma or secondary deposits of nodal lymphoma. Based on the size of the thyroid mass which is significantly much larger compared to the size of lymph nodes of the neck, this is most probably a primary thyroid disease.

Many subtypes of thyroid lymphoma have been reported in literature including diffuse large B-cell lymphoma, lymphocyte mucosa associated lymphoid tissue lymphoma (MALT), follicular lymphoma, Hodgkin's disease small lymphocyte lymphoma and Burkitt lymphoma.<sup>6</sup> Many patients present with rapid

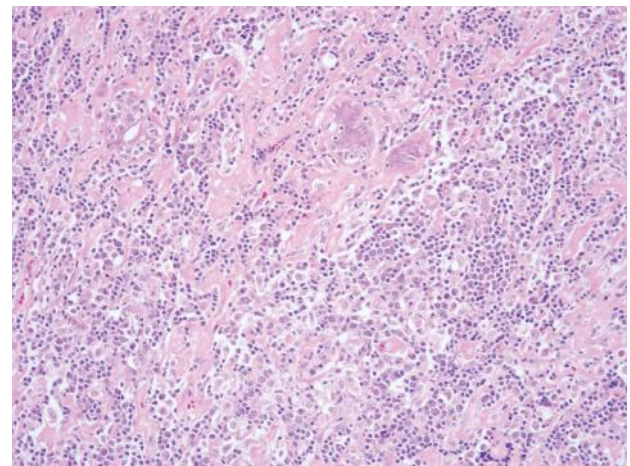


Figure 4: Histological section of thyroid tissue showed diffuse neoplastic lymphoid cells with lymphoepithelial lesions were identified.

thyroid enlarging mass with pressure and obstructive symptoms, occasionally patients may have cervical lymphadenopathy in addition to thyroid mass. The presenting symptoms are mainly due to mass effect, which can cause stridor due to cervical trachea obstruction or dysphagia secondary to oesophageal compression.

FNAC is often the investigation of choice of thyroid lesions however in most instances, tissue confirmation is required. Cytological features suggestive of lymphoid malignancy are dispersed arrangement of the neoplastic cells, composed predominantly of immature neoplastic lymphoid cells population and presence of lymphoglandular bodies.<sup>7</sup> It is crucial to exclude anaplastic carcinoma, which may also show dispersed neoplastic cellular arrangement, however the latter lacks lymphoglandular bodies.<sup>8</sup> Immunohistochemistry using lymphoid and epithelial markers are employed to differentiate between the

two. Non Hodgkin Lymphoma has been shown to complicate thyroiditis.<sup>9</sup>

Risk of having thyroid lymphoma in patient suffering from Hashimoto thyroiditis is 40-80% higher than normal population. This can be attributed to chronic antigenic stimulation secondary to auto immune disorder leading to chronic proliferation of lymphoid tissue which can undergo mutation and subsequent development of lymphoma.<sup>10</sup>

As for any other tumour assessment, the best radiological imaging is a CT scan. To confirm subclinical typing of the tumour tissue biopsy samples needs to undergo immunohistochemistry with special staining.<sup>11</sup> In this case, the hemithyroidectomy was opted as the patient required a tissue biopsy as well as to relieve compressive and obstructive symptoms. Previously surgery was the treatment of choice but now surgery is mainly for confirming the diagnosis and treating indolent cases of MALT or in relieving obstructive symptoms.<sup>12</sup>

Before the era of monoclonal therapy in B cell lymphoma, patients with primary thyroid DBCL were treated with combined chemo-radiotherapy. It has been showed to produced better remission rate as well as reduced recurrent. However there were concerns about the long term risk of radiotherapy related secondary malignancy of the head and neck. Immuno-chemotherapy with R-CHOP has been reported to produce complete response in 3 patients without disease recurrence after 16-25 months follow up.<sup>13</sup> Our patient was treated with hemithyroidectomy

and immuno-chemotherapy using R-CHOP protocol without hormone replacement therapy. Some studies advocate hormone replacement therapy in primary thyroid lymphoma patient arising from Hashimoto thyroiditis and undergo chemo-radiotherapy because their thyroid gland is less active post treatment due to chemo-radiation exposure with a high risk of hypothyroidism in up to 50%.<sup>14</sup>

The jugular vein thrombosis in this patient can be due to mechanical pressure on the internal jugular vein or due to the thrombolite material release into the circulation.<sup>15</sup> He responded well to conservative treatment with warfarin. The prognosis of primary thyroid lymphoma is generally good. The prognostic factors includes: age, tumour size, stage, nodal involvement, present of B symptoms and treatment modality.

### **Conclusion**

We present a case of male patient with primary thyroid lymphoma who presented with rapidly progressive upper airway obstruction. Thyroid lymphoma is not the common provisional diagnosis made in a patient who has anterior neck mass as it is a very uncommon. A high index of suspicion is needed to come into diagnosis and detailed immunohistochemistry categorization is important to guide its best definitive therapy. He responded well to immuno-chemotherapy and planned to have a PET-CT evaluation soon.

**Conflict of interest:** None declared

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