lobe for two months despite normal TSH on Levothyroxine, prompting an ultrasound which revealed several enlarged left sided cervical lymph nodes and an enlarged left thyroid gland. Cytology from an FNA of a left level 3 lymph node showed atypical lymphoid infiltrate featuring scattered large atypical cells in a background of small lymphocytes. Immunohistochemical testing was PAX5+, CD30- and CD15-. Cytology from an FNA of left thyroid revealed identical changes and immunohistochemistry demonstrated PAX5+ and CD20+. Concurrent flow cytometric studies demonstrated increased CD4 to CD8 ratio among T cells. Excisional biopsy of a left cervical lymph node confirmed a diagnosis of THRLBCL. PET/CT exhibited lymphadenopathy above her diaphragm and splenic involvement. Her bone marrow biopsy was negative for involvement. She was deemed Stage III with international prognostic index (IPI) of 2 corresponding with low-intermediate risk. She was commenced on chemotherapy R-CHOP with plan to complete 6 cycles. **Discussion:** THRLBCL is characterized by scattered atypical B lymphocytes on a background of T lymphocytes and histiocytes. Usually, T-cells are predominantly CD8+, in contrast to our patient. Some studies identified cases of predominant CD4+ and PD1+ T cells. Cytology revealed scattered small B-cells and large B-cells, a feature that is not typically seen in THRLBCL. A diagnosis of diffuse transformation of nodular lymphocyte predominant Hodgkin lymphoma was considered but the diffuse proliferation outside of CD21+ and involvement of the thyroid is not compatible with such diagnosis. Similarly, a diagnosis of follicular helper T-cell lymphoma with admixed large B-cells was considered but while PD1+ CD4+ T cells are present, there was no aberrant antigen expression by flow cytometry or T cell clonality. THRLBCL mainly involves lymph nodes and presents at advanced Ann Arbor stages with high IPI. Malignant lymphomas of the thyroid gland are exceedingly rare, accounting for 2% of thyroid cancers, out of which the literature reveals a single case report of THRLBCL arising from the thyroid. THRLBCL represents an aggressive form of lymphoma and is treated according to stage-matched DLBCL, although the effects of Rituximab in this population is variable. **Conclusion:** Hashimoto's is considered a risk for thyroid lymphoma usually diffuse large B-cell lymphoma and MALT lymphoma. We present a rare case of THRLBCL occurring in the setting of Hashimoto's with acute thyroid gland enlargement.

Thyroid

THYROID CANCER CASE REPORTS

A Subtype of Papillary Thyroid Carcinoma Bone Metastasis With Excellent Response to RAI-Therapy

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Introduction: Bone metastases from differentiated thyroid cancer are generally resistant to radioactive iodine (RAI) therapy and are associated with poor prognosis, except for RAI-avid bone metastases with no structural correlate on imaging studies. **Case:** A 59 y/o woman presented for the evaluation of non-toxic multinodular goiter. Thyroid US showed a 2.7 cm nodule meeting FNAB criteria and no suspicious cervical lymph nodes. Cytology reported a Bethesda IV category with ThyroSeq V3 positive for chromosomal copy number alterations and a high Na+/I− symporter (NIS) expression (27%) with an ~ 60% probability of cancer. The patient underwent left lobectomy with isthmusectomy without neck dissection. Surgical pathology showed a 3.5 cm papillary thyroid carcinoma with extensive angioinvasion (≥4 vessels), negative margins, no ETE, and did not contain a BRAF V600E mutation. Completion thyroidectomy, in anticipation of RAI treatment, showed no additional tumor. Post-operative Tg after 6 weeks was unexpectedly high at 69 ng/mL (negative Tg Ab, TSH 5.7 uIU/ml) which prompted a rhTSH I-123 RAI WBS with SPECT/ CT and a diagnostic chest CT to uncover possible distant metastases. There was RAI uptake in the thyroid bed and right anterolateral 9thrib without a CT correlate (no osteolytic lesion) but with a signal abnormality on MRI. She was categorized as T2NxM1, 8th Edition AJCC Stage IVB, and ATA high risk. She was treated with 148.3 mCi I-131. Unfortunately, 6 months later the Tg was elevated and rising (Tg 38.4 ng/mL, negative Tg Ab, TSH 0.05 uIU/ml). A second diagnostic I-123 WBS with SPECT/ CT showed a new recurrence in the neck but no uptake in the rib lesion on planar images or other distant sites. Because of the unusually high Tg without any RAI-avid metastatic disease, an 18-FDG PET/CT was ordered to search for non-RAI avid disease. This showed disease confined to the neck and increased sclerosis of the rib lesion without increased FDG-uptake consistent with treated disease status post-RAI. There were no other distant hypermetabolic lesions. The left thyroid bed lesion was biopsied and consistent with Bethesda VI cytology and she will soon undergo left central neck dissection with tumor resection. **Discussion:** RAI-avid bone metastases without structural correlate on high-resolution imaging are a subtype of bone metastases located in the marrow. They do not present as the typical lytic lesions from cortical destruction. They often resolve following RAI treatment, do not cause skeletal-related complications, and do not significantly affect prognosis. The combination of high NIS expression and increased vascularity in the bone marrow (as opposed to the protected microenvironment in the bone cortex) makes them vulnerable to RAI treatment. Recognition of this subset of bone lesions may prevent overtreatment with high doses of RAI treatment and avoid the use of bisphosphonates or external beam radiation.

Thyroid

THYROID CANCER CASE REPORTS

A Tale of Three Cases When Thyroid Cancer Does Not Exist but Metastases Do. A Three-Case Series of Metastatic Follicular Thyroid Carcinoma

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Background: Follicular and papillary thyroid carcinomas represent the majority of all malignancies of the thyroid gland. However, follicular thyroid carcinoma (FTC) is much more difficult to diagnose and manage than its papillary