chest showed multiple scattered lung nodules up to 4mm. Ten weeks post surgery, TG was 0.1 ug/L, TGAb 5.21 IU/ml. Patient received 1 month of dabrafenib and trametinib followed by his first RAI-T(125 mCi) after THW. Pre- and post-therapy scans revealed uptake in the neck and left supraclavicular areas, without uptake in lung nodules. Three months post RAI, chest CT revealed stable lung nodules. TG was 0.1 ug/L, and TGAb was 5.16 IU/L. Neck ultrasound showed no disease.

Conclusion: These three patients with aggressive variants of PTC have advanced disease, and all were found to have a BRAFV600E mutation on genomic analysis. They tolerated BRAF targeted inhibition as an attempt to enhance iodine uptake preemptively with various responses to their first RAI-T. More studies will be needed to determine if this strategy will improve outcomes for these patients.

Thyroid

THYROID CANCER CASE REPORTS

Sarcoidosis-Lymphoma Syndrome Associated With Primary Thyroid Lymphoma: A Case Report

Saori Yamashita, MD[1], Yayoi Matsuda, MD, PhD[1], Hiroki Muta, MD[2], Toshihiko Nagao, MD[1], Hiroshi Nakao, MD[1], Shojiro Haji, MD[2], Yasuhiro Nakashima, MD, PhD[2], Ryuichi Sakamoto, MD, PhD[1], Yoshihiro Ogawa, MD, PhD[3].

[1]Department of Endocrinology Metabolism and Diabetes, Kyusyu University, Fukuoka, Japan, [2]Department of Hematology, Kyusyu University, Fukuoka, Japan, [3]Department of Endocrinology, Metabolism and Diabetes, Kyushu University, Fukuoka, Japan.

Background: Sarcoidosis is occasionally accompanied by hematologic malignancies, including lymphoma, called sarcoidosis-lymphoma syndrome. Although the mechanism underlying the induction of lymphomas is still unknown, understanding the immunological background of sarcoidosis could help explain the possible mechanisms of the induction of lymphomas. **Case Presentation:** A 52-year-old woman was diagnosed chronic thyroiditis with normal thyroid function. One year later, she underwent a screening chest radiograph and identified bilateral hilar adenopathy and mediastinum lymphadenopathy. Subsequent mediastinoscopy demonstrated sarcoidosis. Because of the lack of clinical symptoms, steroid treatment was not initiated and regular follow-up was performed. One and a half years after the diagnosis of chronic thyroiditis, she presented with rapid swelling of the thyroid gland. FDG-PET/CT showed intense uptake of FDG in the thyroid gland and multiple lymphadenopathy. Fine-needle aspiration (FNA) cytology of the thyroid gland was only suggestive of a lymphoproliferative disorder and did not provide a definitive diagnosis. Partial thyroidectomy was performed, and the pathology indicated diffuse large B-cell lymphoma (DLBCL) such as high-grade transformation of extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue (MALT) lymphoma. The results of an examination of a paraffin block histopathology specimen by fluorescence in-situ hybridization (FISH) detected BCL6 rearrangement (3q27), which is the most common chromosomal abnormality in DLBCL. After the treatment with R-EPOCH (rituximab, etoposide, vincristine, doxorubicin, cyclophosphamide, and prednisone) chemotherapy, the thyroid gland enlargement has improved markedly, while the lymph nodes remained swelling, that suggested lymph node involvements were due to sarcoidosis. **Conclusions:** Rapid swelling of the thyroid gland in the setting of chronic thyroiditis should raise suspicion for thyroid lymphoma. Furthermore, our present case might suggest that sarcoidosis accelerate the development and high-grade transformation of thyroid lymphoma. To our knowledge, this is the first reported case of sarcoidosis and primary thyroid lymphoma in the same patient.

Thyroid

THYROID CANCER CASE REPORTS

Solitary Fibrous Thyroid Tumor: A Case Report

Abubakr H.B. Mohamed, MD, MMSc[1], Faisal Qureshi, MD[2], Randa Sharag Eldin, MD[3].

[1]Amita Health Saint Joseph hospital, Chicago, IL, USA, [2]Amita Health Saint Joseph Hospital, Chicago, IL, USA, [3]Amita Health St Francis Hospital, Evanston, IL, USA.

Introduction: Solitary fibrous thyroid nodules are rare tumors and can mimic benign thyroid goiter and neoplasms. Case Description45 years old Caucasian female, with no significant past medical history, who presented to endocrinologyclinic for left neck mass evaluation. She denied previous history of thyroid disease, weight loss, cold/heatintolerance, menstrual irregularity, toxic or obstructive thyroid related symptoms. Her family history issignificant for maternal pancreatic cancer. Clinical exam was unremarkable except for left thyroid mass. An initial thyroid ultrasound showed left thyroid nodule 20 x16 x 25 mm in size five years prior topresentation. Repeated Fine Needle aspiration yielded benign follicular cells, histiocytes and fewlymphocytes. The nodule continued to increase in size reaching 46 mm in the long axis per thyroidultrasound at presentation to clinic. Her TSH, FT4 and total T3 remained within normal ranges. She wasreferred for surgical evaluation and underwent left thyroid lobectomy. Pathology reported 50 mm wellcircumscribed intrathyroidal neoplasm composed of spindle cells with pauci to moderate cellularity with noincreased mitotic activity, nuclear atypia, or necrosis. Immunohistochemistry was positive for STAT 6 andCD34and negative for PAX-8, TTF-1, S100 and SMA. The patient remains euthyroid with no lymph nodeor organ involvement after 5 years from initial presentation. **Discussion:** Solitary fibrous tumors (SFT) of the thyroid are rare although they have been described in differentanatomic sites (1). It presents as slow growing, painless, non toxic nodule in middle age of both sexes (1,2). The diagnosis of these tumors via FNA is difficult due to cellular paucity. Histologic findings may bechallenging due to shared features with other thyroid undifferentiated, papillary and follicular cancervariants. Immunohistochemistry are warranted to assist in confirmation-STAT6 and CD34 (3). SFT tumorsare mostly benign tumors and carries favorable prognosis. **References:** (1) Thompson, L.D.R., Wei, C., Rooper, L.M. *et al.* Thyroid Gland Solitary Fibrous Tumor: Report of 3 Cases and aComprehensive Review of the Literature. *Head and Neck Pathol***13,** 597–605 (2019)(2) Ghasemi-Rad M, Wang KY, Jain S, Lincoln CM. Solitary fibrous tumor of thyroid: a case report with review

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Thyroid

THYROID CANCER CASE REPORTS

The Difficulty of Post-Operative Surveillance of Calcitonin Negative Medullary Thyroid Cancer

Emily Skutnik, DO, Rachel Kinney, DO, Rebecca Lopes, DO, Chun Siu, DO, Angela Magdaleno, DO, Gretchen Perilli, MD.
Lehigh Valley Health Network, Allentown, PA, USA.

Background: As a differentiated thyroid tumor, medullary thyroid cancer (MTC) typically maintains the secretory function of the c-cells with resultant increase in serum calcitonin level along with frequent elevations in serum chromogranin A (CgA) and carcinoembryonic antigen (CEA).
Clinical Presentation: A 71-year-old female with history of multinodular goiter underwent a thyroid nodule biopsy after routine ultrasound surveillance revealed enlargement of two right lower lobe nodules compared with prior imaging. Fine needle aspiration (FNA) of one 3.1 x 1.9 x 2.7 cm right thyroid nodule revealed cellular material composed of spindle-shaped neoplastic cells, some of them with marked cytologic atypia, suspicious for a neuroendocrine tumor, specifically medullary thyroid carcinoma. A PET/CT scan was performed after injection of Gallium-68 dotatate radiotracer and revealed intense focal radiotracer activity in the approximately 2.5 x 2.1 cm right thyroid mid lower pole heterogeneous hypodense mass with tiny calcification inferiorly, consistent with the patient's known tumor. There was no evidence of cervical octreotate avid metastatic lymphadenopathy and a chest x-ray showed no evidence of active pulmonary disease. The patient subsequently underwent a right partial thyroidectomy with isthmusectomy. Histopathology revealed a 2.8 x 1.9 x 1.9 cm neoplasm composed of spindle and polygonal cells growing in solid nests with neuroendocrine-type nuclei. Immunostains showed the tumor to be positive for AE1-AE3 cytokeratins, chromogranin, synaptophysin and CEA. It was focally positive for TTF-1 and calcitonin. Thyroglobulin and PAX-8 were negative. Using the AJCC 8th edition staging system, the tumor was staged a pT2Nx with margins uninvolved by carcinoma and no extrathyroidal extension or lymphatic invasion. Angioinvasion was present. Additional serum studies included a normal calcitonin value of <2.0 pg/ml (reference range 0-5.1 pg/ml), CEA 2.6 ng/ml (reference range <6.0 ng/ml), and a mildly elevated chromagranin A at 133 ng/ml (reference range 0-95 ng/ml). Plasma metanephrines, normetanephrines, vasoactive peptide, and glucagon levels were all unremarkable. Our patient's surgical recovery was normal and two months later she remained asymptomatic without evidence of recurrence or metastasis.
Discussion: The diagnosis and post-operative surveillance of medullary thyroid cancer is challenging; even more complicated is the rare case of calcitonin-negative MTC. The cause of calcitonin-negative MTC remains unclear. Further studies are needed for the discovery and development of novel biomarkers for post-operative surveillance and evaluation of clinical relapse.

Thyroid

THYROID CANCER CASE REPORTS

The Importance of Lymph Node Dissection in Medullary Thyroid Carcinoma Management

Camila Alejandra Villavicencio, MD, Alberto Franco-Akel, MD, Regina Belokovskaya, DO.
METROPOLITAN HOSPITAL CENTER, New York, NY, USA.

Medullary thyroid carcinoma (MTC) is a rare endocrine malignancy that arises from calcitonin (Ct) parafollicular C-cells. Most cases are sporadic with frequent presentation being a solitary thyroid nodule. Total thyroidectomy with central neck dissection of lymph nodes (LN) is the standard treatment for MTC. The need for lateral neck dissection is controversial, with poor efficacy of non-surgical treatments presenting a problem. We present a case of MTC with preoperative Ct >500 pg/mL and negative imaging for metastases who underwent total thyroidectomy without LN exploration with an excellent postoperative biochemical response.
This is a case of a 52-year-old female with a three-year history of anterior neck growth. The repeat fine needle aspiration (FNA) of a, previously negative for malignancy, growing nodule was consistent with MTC. Preoperative Ct and CEA levels were significantly elevated, 834.0 pg/mL and 11.2 ng/dL, respectively; a preoperative pan- CT scan did not reveal any suspicious LN or metastatic lesions and a negative RET oncogene mutation with normal plasma normetanephrines and metanephrines suggested a spontaneous rather than familial MTC. Patient underwent total thyroidectomy without LN exploration. Pathology confirmed MTC stage T1b. The one and three months postoperative follow up showed a significant downtrend with no normalization of Ct and CEA levels, 9.1 – 9.2 and 11.1 – 1.2, respectively. Reoperation for central and lateral neck dissection was considered; however, given the excellent biochemical response as well as the lack of radiographic evidence of disease, it was decided to continue monitoring of Ct and CEA levels for now.
MTC response is monitored by the postoperative serum Ct and CEA levels when compared to the preoperative values. Serum Ct serves as a sensitive tumor marker, which is thought to have correlation with malignancy mass size and its cellular differentiation. The term biochemically cured, refers to the postoperative normalization of CEA and undetectable levels of Ct which carries a 5-year recurrence of 5%. It is believed that the higher the levels and the faster doubling time of these tumor markers the worse is the prognosis. In addition, it is suggested that patient's age and extent of disease at the time of surgery are proportionally correlated with disease recurrence. However, there are reports of large MTC metastatic deposits with low serum Ct and CEA, rising up the hypothesis that levels reflect cell production potential for tumor markers rather than the number of cells. Reoperation rarely results in biochemical cure, but it may slow disease progression. Normal postoperative Ct levels predict cure; however, the clinical course