

MON-460

An Extremely Rare Case of Urothelial Carcinoma Metastasizing to the Thyroid Gland

BACKGROUND Metastasis of primary malignancies to the thyroid gland is uncommon, with an overall incidence of 2%. The most common malignancy to metastasize to the thyroid is lung neoplasm (22%) as reported in an autopsy series and renal cell carcinoma (25%) in a clinical series.

CLINICAL CASE A 78 year-old-white male was found to have a thyroid nodule on CT neck performed for surveillance of urothelial carcinoma diagnosed 3 years prior. On retrospective review of CT chest from the previous year, the thyroid nodule had increased in size but didn't meet criteria for FNAC. Neck/Thyroid US demonstrated a right lobe solid hypochoic nodule measuring 1.1 x 0.7 x 1.1 cm (longitudinal x anterior-posterior, lateral respectively). Nodule margin was well defined, with no internal vascularity, microcalcifications or abnormal cervical lymph nodes. Seven months later, US reported the nodule to have increased in size to 2.1 x 2.1 x 4.7 cm at which point FNAC was performed. Cytology revealed malignant cells compatible with metastasis from the urothelial carcinoma. Three years prior, his high-grade papillary urothelial carcinoma with extensive infiltration into the muscularis propria had been treated with a partial cystectomy and radiation therapy. Surgical margins and all tested lymph nodes had been negative for neoplasm. The patient underwent right thyroid lobectomy and pathology confirmed high-grade malignant neoplasm consistent with metastatic tumor from the patient's known urothelial carcinoma.

CONCLUSION We present a rare case of urothelial carcinoma with metastasis to the thyroid gland. While evaluating thyroid nodules in patients with other known malignancies, clinicians should have a lower threshold for FNAC. This will assist with earlier diagnosis of potential metastatic disease and improve clinical outcomes.

Thyroid

THYROID DISORDERS CASE REPORTS II

Thyrotoxicosis from Nivolumab in a Patient with Preexisting Graves' Disease

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SAT-463

Introduction

Thyroid dysfunction is one of the common immune-related adverse events associated with immune checkpoint inhibitors like Nivolumab. Thyroiditis or primary hypothyroidism is the most commonly reported presentation. Graves' disease is less frequently reported. We report a case of preexisting Graves' disease patient, on antithyroid meds who developed thyrotoxicosis followed by hypothyroidism after receiving Nivolumab therapy.

Case

66 y/o female patient with newly diagnosed metastatic melanoma presented to us for evaluation of abnormal thyroid test after her second cycle of Nivolumab. She has a long-standing history of Graves' disease and has been on

methimazole since her diagnosis. Her baseline thyroid labs before the start of Nivolumab were within normal limits (on methimazole 2.5 mg daily). She presented with weight loss, palpitations, and tremors four weeks after the start of Nivolumab. On exam, she was tachycardic with tremors noted to outstretched hands and had diffusely enlarged thyroid. Repeat lab work done before her second cycle revealed suppressed TSH 0.02 (0.4-4.5 uIU/ml) with elevated free T4 and T3. Her TSI titers were elevated. Methimazole dose was increased to 10 mg daily, and follow up labs done in a month revealed TSH of 89 uIU/ml, Free T4 0.16 (0.76-1.8 ng/dl). Methimazole was completely stopped at this time. She continued to have elevated TSH despite being off of methimazole for more than a month, concerning for the development of hypothyroidism. She was started on levothyroxine, after which labs returned to normal. The patient continued on immunotherapy during this period.

Discussion

Immune checkpoint inhibitors have been increasingly used for cancer therapy. Endocrinopathies are the most common immune-related adverse events associated with the use of these agents, with thyroid dysfunction being more common. Our patient had well-controlled Graves' disease and was on a stable dose of methimazole for years. She developed autoimmune thyroiditis four weeks after receiving immunotherapy and subsequently developed hypothyroidism. The literature search did not reveal cases of autoimmune thyroiditis in a patient with preexisting Graves' disease. One study reported that the timeline for developing the thyrotoxic phase is five weeks, which is followed by the rapid development of either euthyroid or hypothyroid phase. Management during the thyrotoxic phase is usually beta-blockers. Current guidelines recommend checking thyroid function test before initiation of therapy and every two weeks after the diagnosis of thyrotoxicosis until they become euthyroid or hypothyroid.

Our case illustrates that patients with preexisting Graves' disease can develop thyroiditis after receiving immune checkpoint inhibitors, and hence, frequent monitoring with thyroid function tests is needed.

Reproductive Endocrinology

HYPERANDROGENISM

Waist Circumference Is Associated with Insulin Resistance in Young Korean Women with Polycystic Ovary Syndrome

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Polycystic ovary syndrome (PCOS) is a heterogeneous disorder and associated with metabolic disturbances such as insulin resistance (IR) and obesity which are risk factors for cardiovascular diseases. Many studies have shown that waist circumference (WC) representing abdominal obesity is an important risk factor for IR. However, there were few studies whether WC were associated with IR in young women with PCOS. We aimed to evaluate the role of WC in IR among young Korean women with PCOS. We enrolled

age- and body mass index-matched women with PCOS (n = 100) and controls (n = 100). WC was measured and the 75-gram oral glucose tolerance test (OGTT) was performed. Insulin sensitivity was assessed by the Stumvoll index which was calculated from an OGTT. Multiple linear regression analysis was performed to evaluate the association between WC and IR. WC, fasting glucose, post-load 2-hour glucose, fasting insulin, and post-load 2-hour insulin did not differ between women with PCOS and controls. Women with PCOS had lower values of the Stumvoll index than the controls. In correlation analysis, WC was negatively correlated with the Stumvoll index in women with PCOS, however not in controls. In multiple regression analysis, WC was negatively associated with the Stumvoll index even after adjustment for age, total cholesterol, and total testosterone in women with PCOS. In young Korean women with PCOS, WC was negatively associated with insulin sensitivity independent of hyperandrogenemia. Simply measuring of WC could be used to screen the high risk group having IR in young women with PCOS.

Healthcare Delivery and Education

EXPANDING CLINICAL CONSIDERATIONS FOR PATIENT TESTING AND CARE

Implementation of a Diabetes Prevention Program in the San Francisco Safety Net

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Background: We examine the implementation of a DPP in the San Francisco Health Network, a safety net serving over 140,000 patients. We also evaluate the success of patients referred to a YMCA DPP, including the role of incentives (gym memberships and food vouchers). **Methods:** Overweight patients with prediabetes were referred, screened for eligibility and readiness, and invited to participate in a CDC-approved digital or in-person DPP. The YMCA's DPP groups were led by a trained lifestyle coach, in English or Spanish, with 16 weekly core sessions followed by nine maintenance sessions over a year. Sessions were held at health care sites or at a YMCA (3 of 5 sites had gyms). Gym memberships were offered at no cost to all participants. Continued membership required meeting attendance metrics. Food vouchers became available to participants in Spring 2019. **Results:** From August 2017 to October 2019, 650 patients were referred to the DPP, 168 (25.8%) were reached, passed a readiness assessment and chose to participate. Of those, 110 patients expressed interest in the YMCA and 73 have registered for one of eight classes that are now past 16 weeks. Of those 73 patients, 64 officially enrolled (e.g. attended at least one session in the first four weeks). Enrolled patients were majority female (78.1%) and 45.3% reported a family history of DM. Average age was

47.9 ± 12.2 y, BMI 37.7 ± 8.4, A1c 5.8% ± 0.3. More than half (56.3%) were Hispanic/Latino, 17.2% Black, 9.4% Asian. Exactly half were English- and half Spanish-speaking. Of the 64 enrolled patients, 42 were retained in the DPP (e.g. attended four or more sessions). These patients attended an average of 11.8 ± 3.4 of the core 16 sessions. At wk 16, average weight loss was 2.2% ± 3.9 (N=40, range -4.4, 16.7); 20% of patients lost at least 5% of their initial body weight. Regarding incentives, 76% of the retained patients activated their gym membership. Average monthly gym attendance was 9.1 ± 9.1 visits with monthly visits maintained over 180 days. Gym visits positively correlated with weight loss ($r^2=0.42$) and there was a non-significant trend towards more frequent gym visits by patients enrolled at sites with a gym (11.8 ± 10.9 vs 6.5 ± 6.2). Comparison of Spanish-speaking participants who received food vouchers to those who did not showed a non-significant trend towards improved attendance (12.1 ± 3.0 vs 9.6 ± 3.7 of 16) and 16 wk weight loss (2.2% ± 3.4 vs 0.3% ± 2.4). Additional follow-up data at 36 wks available on 19 patients showed a sustained weight loss of 3.8% ± 6.6 compared to 2.4% ± 4.3 at 16 wks. **Conclusion:** While DPPs have been widely promoted, real-world implementation has been challenging. Understanding the delivery of DPPs in safety net populations is important given barriers to attendance. Our results show early modest weight loss in those enrolled in the YMCA DPP and suggest incentives such as gym memberships and food vouchers may improve attendance and weight loss.

Cardiovascular Endocrinology

PATHOPHYSIOLOGY OF CARDIOMETABOLIC DISEASE

The Normalization of Sleep Duration as a Factor of Glyhemoglobin Reducing

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Sleep deprivation is an important risk factor of the metabolic disorder. According to the systematic review published in the Circulation there are a lot of data from epidemiological, clinical and experimental researches which confirm this fact. The goal of our research was to assess the level of glycohemoglobin after the normalization of sleep duration. 24 patients with diabetes mellitus type2 (19 females and 7 males, average age 58.7 ± 1.3 yer) were included in the research. Diabetes mellitus type 2 duration was 9.5 years. Criteria excluded were myocardial infarction, stroke, sleep apnea, oncological diseases and depression. To exclude depression we used the questionnaires: Center for Epidemiological Studies Depression Scale and The Hospital Anxiety And Depression Scale. To exclude sleep apnea we used questionnaire STOP-Bang score. The sleep duration was assessed by the patients self-reports. Glycohemoglobin was determined by Immunoinhibition Method Cobas 6000, Roche Diagnostics. The sleep duration was corrected by cognitive behavioral therapy. For statistic assess of the