Clinical Case: A 21-year-old male with recently diagnosed metastatic non-seminomatous germ cell choriocarcinoma presented with persistent tachycardia and anxiety. At diagnosis, his β- human chorionic gonadotrophin (β-HCG) was elevated to 6,435 mIU/mL (normal <1 in male) and thyroid-stimulating hormone (TSH) was within normal limits. At presentation, however, his β-HCG increased to 103,229 mIU/mL, TSH was suppressed <0.02 mcIU/mL (normal 0.3-4.7), and free thyroxine was elevated (FT4) 2.6 ng/dL (normal 0.8-1.7). His thyrotoxicosis improved with initiation of methimazole; however, his TSH remained undetectable due to persistently elevated β-HCG levels. His course was complicated by hemorrhagic shock and acute liver injury in the setting of a presumed intraluminal gastric metastasis, necessitating the discontinuation of methimazole. He was continued on steroids to try to minimize T4 to T3 conversion, but ultimately his thyroid hormones uptrended. He became stable enough to tolerate 5 days of chemotherapy, after which his FT4 quickly normalized. Unfortunately, he continued to suffer from vasodilatory shock and ultimately passed away.
Discussion: It has been demonstrated that HCG can bind to the TSH receptor and has thyrotropic activity. The development of hyperthyroidism requires HCG levels >200,000 mIU/mL that are sustained for several weeks (1). It is unknown what the prevalence of hyperthyroidism is in choriocarcinoma, but it has been shown to greatly increase when serum HCG levels are greater than >50,000 mIU/mL (2).
Conclusion: Hyperthyroidism can be difficult to recognize in patients suffering from cancer as many of the typical symptoms can also be seen with active malignancy. Patients with HCG-secreting tumors should be evaluated for hyperthyroidism and may benefit from treatment until the underlying cause can be managed.
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Thyroid

THYROID DISORDERS CASE REPORT

A Case of Parathyroid Adenoma Three Decades Post Radioactive Iodine Therapy: Is It Just a Coincidence or Real Risk?

panadeekarn panjawatanan, MD, Vijaykumar Sekar, MD, Joseph Hughes, MD.
Bassett Medical Center, Cooperstown, NY, USA.

Background: External radiation to the head and neck is a known risk factor for the development of parathyroid adenoma. But the incidence is very rare in internal radiation recipients. Here we describe a case of parathyroid adenoma after 30 years of radioactive iodine therapy for Graves' disease.

Clinical Case: A 50-year-old female presented during an annual visit with progressive fatigue, polyuria, polydipsia, nocturia, muscle weakness, and some memory impairment. She had a past medical history of Graves' disease treated with radioactive iodine therapy 30 years ago with subsequent hypothyroidism, controlled essential hypertension, asthma, and obesity BMI 32.5 kg/m^2. There was no history of nephrolithiasis, fractures, pituitary tumor, or acid reflux. Family history was noted for thyroid diseases, no calcium issues or hyperparathyroidism. Neck examination did not reveal any thyromegaly or palpable nodule. Laboratory tests showed calcium 11.4 mg/dL (8.6-10.3), ionized calcium 6.1 mg/dL (4.2-5.4), parathyroid hormone 213.9 pg/mL (12-88), total vitamin D 22 ng/mL (31-100), TSH 0.47 uIU/mL (0.34-3.00), Free T4 1.1 ng/dL (0.6-1.6), creatinine 0.7 mg/dL (0.6-1.2), eGFR >60 ml/min/1.73 m^2, 24-hr urine calcium 405 mg (40-350). Bone density revealed T-score -4.9 at the lumbar spine, -2.8 at the total hip, -3.1 at the femoral neck, and -2.9 at distal 1/3 radius. Neck ultrasound showed atrophy of the thyroid gland with a lobulated hypoechoic area measuring up to 1.3 x 0.9 x 0.9 cm without internal blood flow at posterior inferior to the right lobe of the thyroid gland. Parathyroid SPECT/CT scan revealed no evidence of parathyroid adenoma. The hypoechoic lesion was suspected to be a lymph node according to imaging studies. However, according to laboratory and bone density results, we suspected primary hyperparathyroidism in which the patient required surgery due to current symptoms. The patient underwent surgery with an intraoperative finding of a nodule at the superior of the right parathyroid gland. A frozen section of the nodule was sent which confirmed parathyroid adenoma. The gland, weighted 483 mg, was removed with subsequent improvement of intraoperative parathyroid hormone level from 238.5 pg/mL to 26.5 pg/mL. Follow up calcium was at 9.5 mg/dL. The patient was supplemented with calcium and vitamin D afterward. Her symptoms improved significantly.
Conclusion: Hypercalcemia in a patient with prior history of radioactive iodine therapy should raise concern for parathyroid adenoma. Imaging of the parathyroid gland should be cautiously interpreted with laboratory tests as it could be a false negative. Due to patient met criteria for surgery, the surgical approach should be pursued for both diagnostic confirmation and definite treatment. Intraoperative parathyroid hormone monitoring is beneficial in equivocal imaging and in reflecting successful resection of uniglandular disease.

Thyroid

THYROID DISORDERS CASE REPORT

A Case of Rare Autoimmune Pancytopenia Due to Graves' Disease

Ally Wen Wang, MD[1], Geeti Mahajan, MD[2], Aaron Etra, MD[3], Shira R. Saul, MD[4].
[1]Icahn School of Medicine at Mount Sinai Department of Endocrinology, Diabetes & Metabolism, New York, NY, USA, [2]Hackensack Meridian Health Pascack Valley Medical Center Department of Endocrinology, Diabetes & Metabolism, Westwood, NJ, USA, [3]Icahn School of Medicine at Mount Sinai Department of Hematology and Medical Oncology, New York, NY, USA, [4]Icahn School of Medicine at Mount Sinai, New York, NY, USA.