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Thyroid

THYROID CANCER CASE REPORTS

Toxic Thyroid Nodule: To FNA or Not?

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Background: ATA guidelines recommend evaluation of hyperthyroidism with radioiodine scan and consideration of FNA for non-toxic nodules with suspicious sonographic features. However, there is no standard evidence-based approach to performing ultrasound in patients with toxic nodules. Recent studies have shown increased rates of thyroid cancer in patients with hyperthyroidism and has been shown to demonstrate aggressive histologic features. **Clinical Case:** A 41-year-old female presented to primary care provider for annual physical exam, found to have intermittent bigeminy and enlarged thyroid on exam. EKG notable for multiple premature ventricular complexes. Evaluation revealed suppressed TSH <0.01 μIU/mL (0.27-4.20), normal free T4 1.27 ng/dL (0.80-1.80), slightly elevated free T3 4.84 pg/mL (2.57-4.43) and elevated TSI 238% (<122). Methimazole was started for treatment of hyperthyroidism. Thyroid sonogram was ordered for abnormal exam, that showed 2.7 cm TIRADS 4 left thyroid nodule with microcalcifications. I-131 uptake values were 20% and 49% at 4-hours and 24-hours, respectively. Technetium-99M scan showed toxic autonomous nodule in the left thyroid lobe corresponding to the one seen on sonogram. The remainder of the thyroid gland showed heterogeneously suppressed uptake. FNA of the thyroid nodule was done due to the presence of microcalcifications and the cytopathology was suspicious for papillary carcinoma. She underwent total thyroidectomy with central neck dissection involving pre-tracheal and paratracheal lymph nodes (level VI). Pathology showed 1.4 cm papillary carcinoma with lymphovascular space invasion and multifocal papillary microcarcinomas in the left thyroid lobe, 0.2 cm papillary microcarcinoma in right thyroid lobe, metastatic papillary carcinoma in 2 out of 5 lymph nodes, largest metastatic deposit 0.1 cm in the largest dimension with no extra nodal extension. There was also follicular hyperplasia noted consistent with Graves' disease. Post-operatively, she had thyrogen-stimulated adjuvant RAI treatment, dose 107.4 mCi. Post therapy scan did not show evidence of distant metastases. **Conclusion:** This case demonstrates the identification of a metastatic papillary thyroid carcinoma based on suspicious ultrasound features requiring total thyroidectomy, central neck dissection and adjunct radioactive iodine in a patient with hyperthyroidism from co-existent toxic thyroid nodule and Graves' disease.

Thyroid

THYROID CANCER CASE REPORTS

Undifferentiated Thyroid Carcinoma With Anaplastic Features in a 78-Year-Old Filipino Female: A Case Report

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Background: Anaplastic thyroid carcinoma (ATC) accounts for 0.8-9.8% of all thyroid cancers globally with a median survival from diagnosis of 5 months.
Clinical Case: A 78-year-old Filipino female sought consult due to a rapidly progressive anterior neck mass. This started as a centimeter-sized nodule initially noted three months prior. Two months after, there was gradual enlargement to a fist-size, movable mass, hard in consistency associated with dysphagia and hoarseness of voice. On consult, neck ultrasound revealed an enlarged right thyroid with a mass in the right lobe (TI-RADS 5), multinodular with no lymphadenopathy. Furthermore, a CT scan of the neck was done to evaluate for other structural causes of dysphagia showing no intrathoracic extension. Patient was advised surgery but was lost to follow up due to lockdown from COVID-19. In the interim, patient was admitted for aspiration pneumonia. IV antibiotics were initiated and urgent surgery was advised to relieve patient of respiratory compromise. Patient was airlifted to a tertiary care center for further management. Baseline thyroid function tests were normal. Repeat neck imaging showed interval increase in the hypodense mass measuring 6x9x8 cm (from 3x4x5 cm) (APxWxCC) extending to the hypopharynx and laryngeal vestibule with mass effect to the trachea and esophagus. A multidisciplinary meeting was done to establish goals of care. On the 3rd hospital day, a tracheostomy with incisional biopsy and frozen section was done which revealed round to spindle cell neoplasm with anaplastic features. No further surgical resection was done and specimen was sent for immunohistochemical staining. Long term enteral access was secured during the same operation. Final histopathology showed undifferentiated thyroid carcinoma with anaplastic features and no definite lymphovascular invasion. Immunohistochemical markers were negative for CD3, CD20, Thyroglobulin, TTF-1, PAX8, Calcitonin and Pancytokeratin which reveal loss of tumor antigenicity, consistent with the histopathologic diagnosis. Metastatic work-up revealed varisized pulmonary, subpleural and hepatic nodules with lymphangitic carcinomatosis. Patient was staged as IVC (T4N1M1). Patient was referred for radiation to maximize local control, to complete 33 fractions of 200 cGy on the thyroid mass and received one cycle of Paclitaxel before discharge. Concurrent chemoradiation was continued and completed 29 cycles of radiation and 2 cycles of Paclitaxel which significantly reduced the tumor size. However, the patient succumbed to acute coronary syndrome on her third admission.
Conclusion: There is currently no consensus first-line treatment modality available worldwide. Although the diagnosis and treatment of ATC is considered medically