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Abstract

The incidence of solitary thyroid nodules in the US is approximately 5% in females and 1% in males. At autopsy 60% of North American adults were found to have thyroid nodules (7). This incidence of thyroid cancer in the US is approximately 9 per 100,000. Thyroid nodules require a systematic work up involving both imaging and laboratory testing with FNA when indicated. We present a case of a 62-year-old female with a rapidly enlarging benign thyroid mass causing compressive symptoms

Key Words: thyroid mass, rapidly enlarging, benign

Introduction

Thyroid cancer accounts for approximately 3% of all annual cancer diagnoses in the US (6). It is the fifth most common cancer in females (6). Thyroid nodule growth with time is anticipated. Nodule growth is not an accurate predictor of malignancy; however, some enlarging thyroid masses will develop malignancy (4). This is a case of a rapidly enlarging benign thyroid mass causing compressive symptoms and hoarseness in a 62-year-old female with a family history of a first degree relative with anaplastic thyroid cancer.

Case Report

62-year-old female referred by PCP to Endocrinology for a thyroidal mass that had rapid growth over a four month period. The mass became associated with symptoms of hoarseness and dysphagia, which progressed to both liquids and solids. She also experienced a 14 pound weight loss during this period. The patient had no personal history of cancer or radiation. She had a known history of Schatzki's rings. Additional medical history included active daily tobacco use, pancreatitis, gastric ulcerations, multiple sclerosis and seizure disorder. Family history was significant for anaplastic thyroid cancer in the patient's mother.

Initial workup included thyroid function studies and imaging. Investigation included an ultrasound, which showed a 3.6 x 2.6 x 3.1 cm complex cystic mass in the lower pole of the right lobe. Her TSH was 0.13 and free T4 was 0.72. A CT scan of the neck was done which demonstrated 2.8 x 1.8 cm right lobe thyroid nodule. The nodule was causing mild mass effect and left lateral deviation of the trachea. No lymphadenopathy was identified. A fine needle aspiration showed cystic fluid, amorphous material and no follicular cells. It was recommended she undergo a preoperative laryngoscopy; however, the patient refused this portion of her workup. No addition FNA was performed.

Patient underwent a right thyroid lobectomy with intraoperative frozen section. Frozen section showed benign thyroid tissue. At time of operation a laryngoscopy was performed showing normal vocal cord movement. Pathology revealed benign thyroid tissue with a hyperplastic nodule with cystification. The patient recovered well with modest improvement in the hoarseness and dysphagia.



Figure 1.
Transverse US of
right thyroid lobe
demonstrating a 3.6
x 2.6 x 3.1 cm
complex cystic
mass.

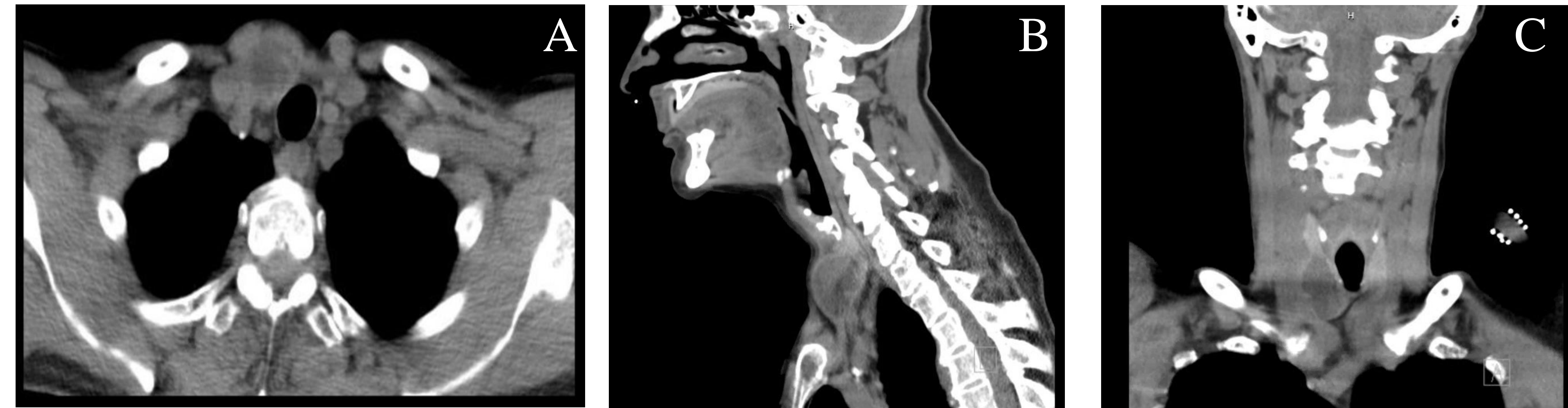


Figure 2. ACT scan demonstrating right thyroid lobe causing mass effect on the trachea in axial (A), sagittal (B) and coronal (C) views.

Discussion

The incidence of solitary thyroid nodules in the US is approximately 5% in females and 1% in males. This incidence increases as regional iodine intake decreases and has been reported at high as 50% (1). The incidence of malignant thyroid nodule in patients without history of prior neck irradiation is 10%. Concerning findings include rapid growth, new onset of hoarseness, development of Horner's syndrome and painful nodules. Two of these findings were present in our patient.

Imaging work up for a thyroid nodule begins with ultrasound. Ultrasound findings concerning for malignancy include lesions with microcalcifications, irregular margins, infiltrative margins, increased vascularity and lesions that are taller than wide (2). In the case of our patient, her ultrasound showed a complex cystic mass and few calcifications. This could be suggestive a benign mass given its cystic appearance (2).

Our patient was experiencing rapid growth and compressive symptoms. Thyroid nodules do tend to grow over time and growth has not been associated with malignancy (3,4). Nodule growth alone should not be used a predictor for malignancy (4). Her FNA was inconclusive. FNA is a reliable method for diagnosing thyroid disease and likelihood of malignancy following the Bethesda criteria (3). Given her compressive symptoms repeat FNA was not pursued, and surgical management with intraoperative frozen section was determined the best course of action.

An additional consideration for surgical intervention in this patient is her history of anaplastic thyroid cancer in a first degree relative. One study found a cumulative risk of thyroid cancer in patient with first degree relative with non-medullary thyroid cancer to be 1-2% (5).

Conclusions

Thyroid nodules carry a risk of malignancy and should undergo systematic work up. Ultrasound characteristics are accurate in predicting need for FNA and additional evaluation. Rapid growth alone should not be used to predict malignancy. Through patient history, including family history should be taken, as radiation and family history carry risk of thyroid cancer development. However, even with concerning growth, positive family history and compressive symptoms, thyroid mass may be benign. Symptoms concerning for nerve invasion or compression indicate need for operative intervention.

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