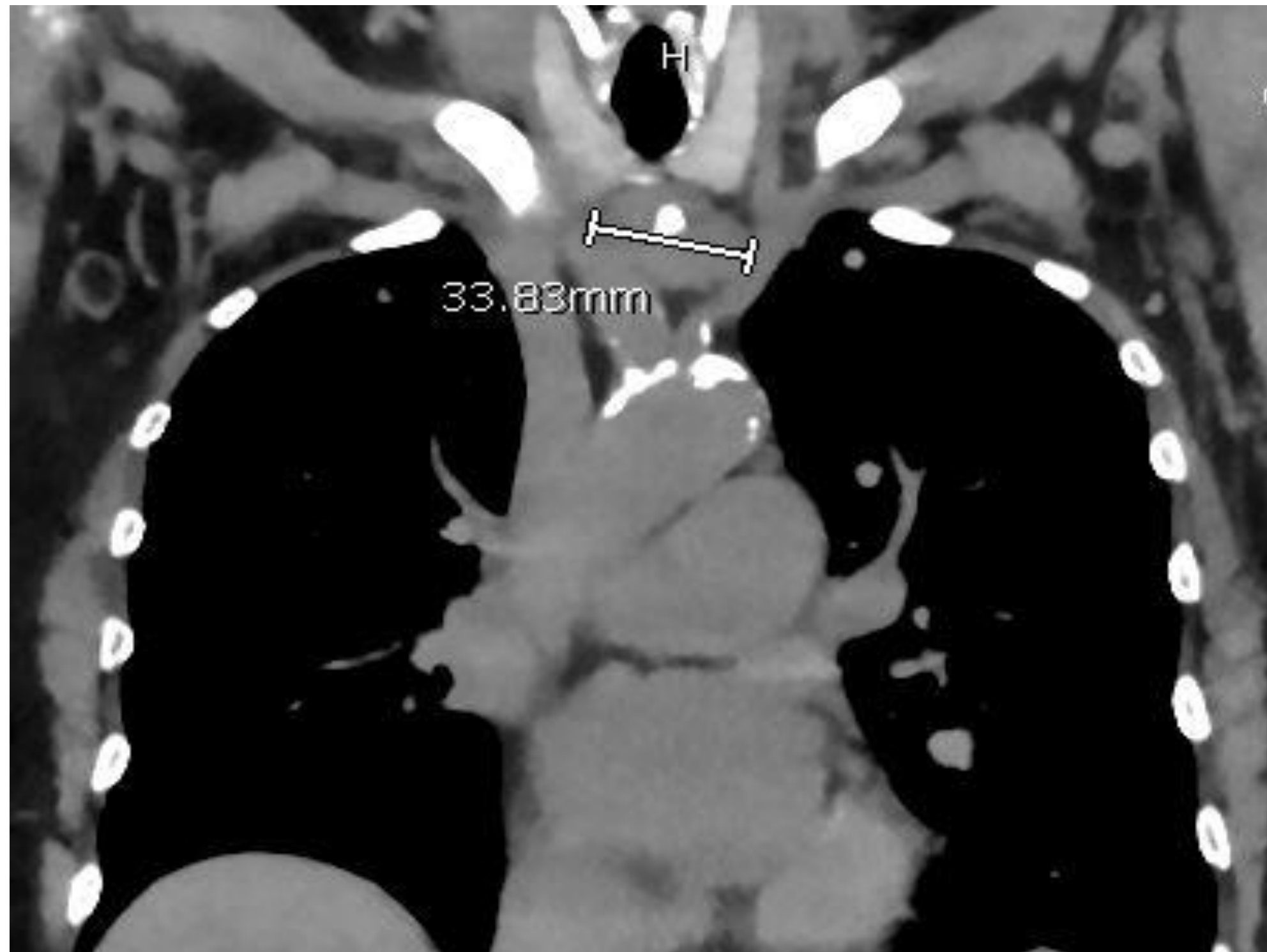


### BACKGROUND

Ectopic thyroid tissue is a rare entity with a prevalence of 1 per 300,000 persons. Malignancy in ectopic thyroid tissue is reported in <1% of these cases.[1] We report a case of aggressive papillary carcinoma in ectopic thyroid gland in a patient with Graves' disease.



**CT THORAX:** A 3.3 cm mass with coarse calcifications is seen in the midline of the superior mediastinum, just below the isthmus of the thyroid gland.

### CASE

A 65-year old woman was incidentally found to have a 3.3 cm mass with coarse calcifications in the superior mediastinum on CT scan of chest. Ultrasound confirmed the presence of hypoechoic mass which was separate from thyroid. Additionally, a 0.5cm TI-Rad 4 left thyroid lobe nodule was found. FNA of the mediastinal mass was suspicious for follicular thyroid neoplasm. Genetic testing was positive for BRAF V600E and TERT c-124C>T mutations. Thyroid function tests showed frank hyperthyroidism and elevated thyroid stimulating immunoglobulins. Thyroid uptake and scan showed diffuse uptake of 67% at 24 hours. The patient underwent simultaneous excision of mediastinal mass and total thyroidectomy. The pathology of mediastinal mass showed papillary thyroid cancer with tall cells and sclerotic features and one involved lymph node. The pathology of thyroid gland did not show any malignancy. She was treated with 100 mCi I-131. Post treatment Whole Body Nuclear Scan revealed metastatic disease in left lower lung area.

### DISCUSSION

Ectopic thyroid gland is usually found anywhere between forman caecum and mediastinum. It is rare to find ectopic thyroid tissue in the presence of eutopic thyroid gland which can create a diagnostic dilemma. Only a very few cases of thyroid cancer arising from ectopic thyroid tissue have been reported. Our case is unique as the eutopic thyroid gland had Graves' disease with no malignancy but the ectopic thyroid tissue developed aggressive papillary thyroid cancer. There are no specific guidelines for the management of carcinoma in ectopic thyroid gland, possibly due to the rarity of the condition. Our case also has a clear metastasis to the lungs. However, it is important to differentiate ectopic thyroid tissue with carcinoma from thyroid cancer metastasis which can be difficult at times. Without specific guidelines for the management of cancer in ectopic thyroid, an individualized approach can be taken using the same therapeutic principals used in the management of eutopic thyroid cancer. Additionally, a finding of a normal thyroid gland or a benign condition in the thyroid gland should not exclude the diagnosis of malignancy in ectopic thyroid tissues.

1) Vázquez OR, Silva F, Acosta-Pumarejo E, Marín ML. Ectopic papillary thyroid cancer with distant metastasis. Case Rep Endocrinol. 2018 Jul;2018:8956712.