

Follicular thyroid cancer with functioning lung metastasis

Queenie Ngalob, MD, Ruben Ogbac, MD, Myrna Buenaluz-Sedurante, MD
Section of Endocrinology, Diabetes and Metabolism
Department of Medicine
University of the Philippines – Philippine General Hospital



SYNOPSIS

- Functioning metastasis from a primary thyroid cancer is rare.
- Failure to proceed to hypothyroidism after total thyroidectomy denotes remaining hormone production from functioning metastasis if the thyroid remnant is small.
- We present the case of a patient with follicular thyroid cancer, lung metastasis and detectable thyroid hormones after thyroidectomy

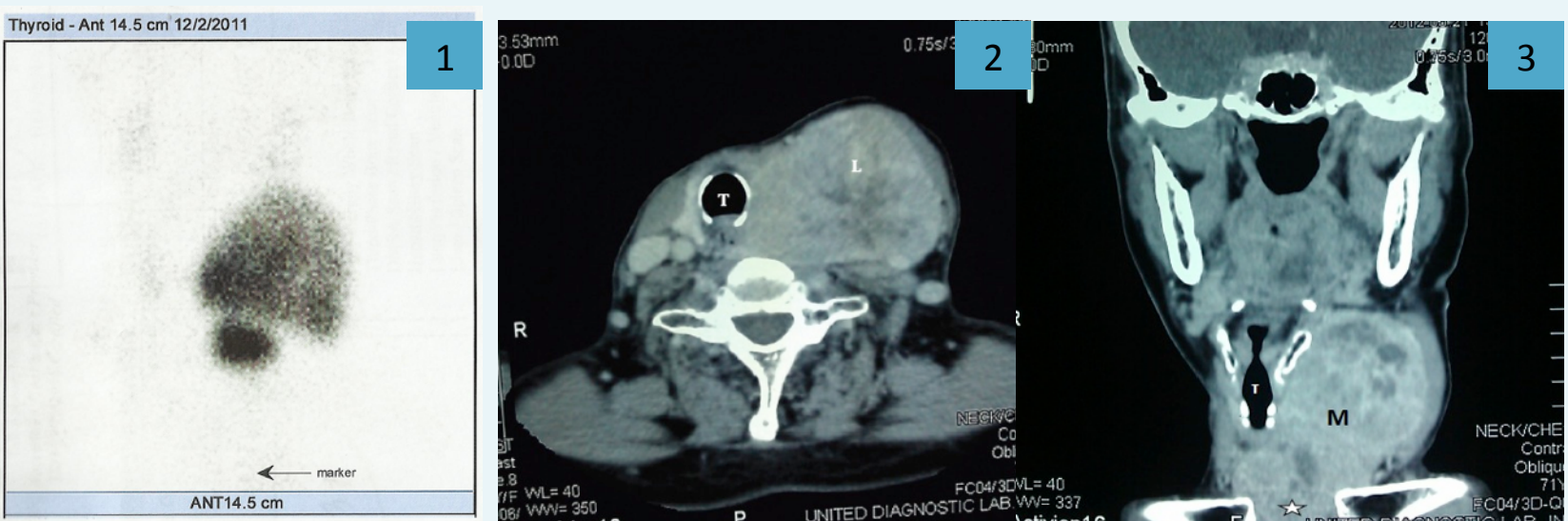
CLINICAL PRESENTATION

- 71 year old Filipina
 - 3 prior thyroid surgeries for recurrent multinodular goiter
 - 1990 - lost to follow-up, histopathology unknown
 - 1998 - s/p excision, again lost to follow-up
 - 2001-s/p excision; Histopathology : Follicular carcinoma, lost to follow-up, no RAI
 - 1 ½ yrs prior to consult, recurrence of thyroid nodules, no obstructive/thyrototoxic symptoms
-
- Two distinct adjacent masses on the anterior neck
 - 6 x 6 cm and 4 x 4 cm
 - doughy and fixed to the neck
 - 1 x 1 cm lymph node along the inner border of the right sternocleidomastoid

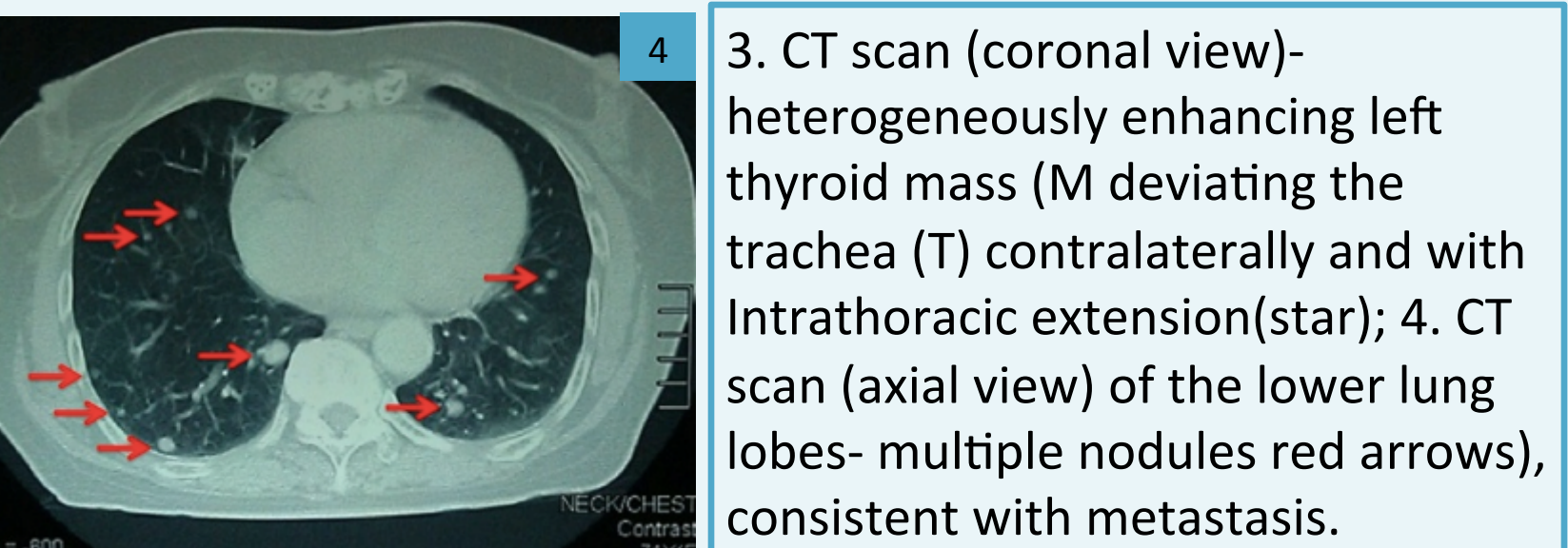


PREOPERATIVE WORK-UP

	Patient	Normal values
TSH	0.03mIU/L	0.3-3.8
FT4	46 pmol/L	11-24
FNAB	Follicular Neoplasm	



1. Thyroid scintigraphy shows confluent functioning thyroid tissues in the left thyroid bed; 2. CT scan (axial view) of the neck. Left thyroid lobe (L) converted into a large solid mass with central necrosis & rightward tracheal (T) deviation; metastasis.



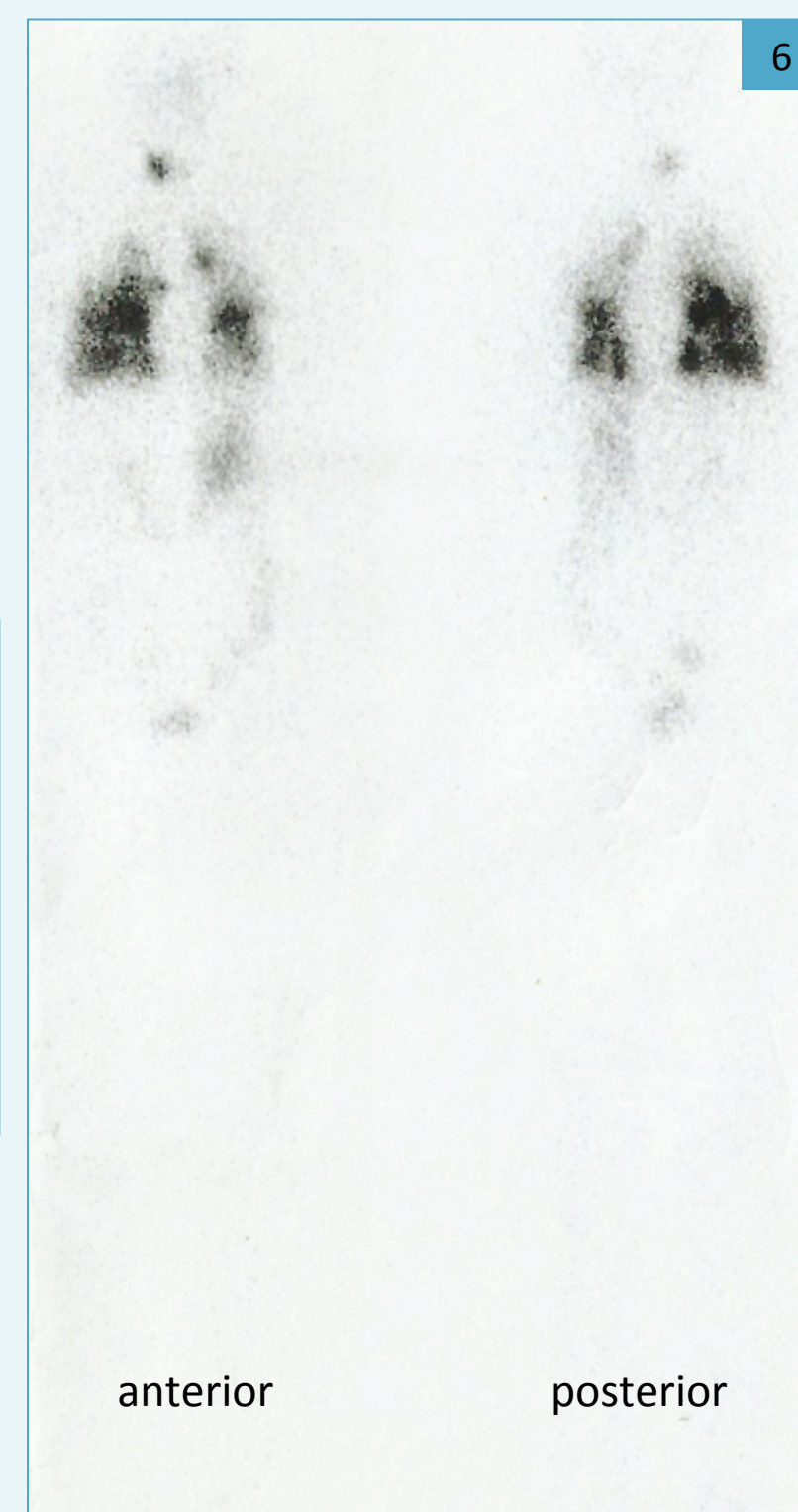
3. CT scan (coronal view)- heterogeneously enhancing left thyroid mass (M deviating the trachea (T) contralaterally and with Intrathoracic extension (star); 4. CT scan (axial view) of the lower lung lobes- multiple nodules red arrows), consistent with metastasis.

POSTOPERATIVE WORK-UP

3 months postop, no hormones

	Patient	Normal values
TSH	0.2 mIU/L	0.3-3.8
FT4	11.7 pmol/L	11-24

5. Diagnostic whole body scan using 3 mCi Iodine-131 showed two small foci of functioning thyroid remnant measuring 1.6 x 1.0 cm and 0.6 x 0.6 cm.
6. Both lungs showed increased tracer uptake.



Assessment : Functioning lung metastasis

INITIAL TREATMENT AND OUTCOME

- Normal FT4 after 4 weeks of Methimazole 20 mg daily
- Underwent completion thyroidectomy with lymph node dissection

Final histopathologic diagnosis:

- Recurrent Follicular thyroid cancer with lymph nodes and pulmonary metastasis, St. IVC
- Autonomously functioning thyroid nodules

SUBSEQUENT TREATMENT AND OUTCOME

The patient underwent radioactive iodine-131 ablation (RAI) therapy with 150 mCi (5.55 GBq). Hypothyroidism was demonstrated 1 month after RAI.

1 month post-RAI

	Patient	Normal values
TSH	33.4 mIU/L	0.3-3.8
FT4	8.2 pmol/L	11-24

CONCLUSION

- Radioactive iodine ablation (RAI) is the treatment for functioning lung metastasis.
- RAI can be done even with a suppressed thyroid stimulating hormone (TSH) since functioning metastasis will uptake I-131.
- Postablative hypothyroidism denotes successful eradication of functioning metastasis.