Follicular thyroid cancer with functioning lung metastasis

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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/thyrotoxic symptoms

PREOPERATIVE WORK-UP

<table>
<thead>
<tr>
<th>Patient</th>
<th>Normal values</th>
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</thead>
<tbody>
<tr>
<td>TSH</td>
<td>0.03 mIU/L</td>
</tr>
<tr>
<td>FT4</td>
<td>46 pmol/L</td>
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<tr>
<td>FNAB</td>
<td>Follicular Neoplasm</td>
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POSTOPERATIVE WORK-UP

3 months postop, no hormones

<table>
<thead>
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<th>Normal values</th>
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</thead>
<tbody>
<tr>
<td>TSH</td>
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<td>FT4</td>
<td>11.7 pmol/L</td>
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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.

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

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.
- Post ablative hypothyroidism denotes successful eradication of functioning metastasis.