

## Intrathyroid metastasis presenting as a solitary thyroid nodule: An unusual case of clinically silent lung cancer

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### Abstract

Metastases in the thyroid gland are very rare. Carcinoma lung is one of the tumours, which may metastasize to the thyroid. We report a 60-year-old lady with intrathyroid metastasis presenting as a solitary thyroid nodule. Fine needle aspiration cytology from the nodule showed features of metastatic adenocarcinoma. Further detail evaluation revealed primary lung adenocarcinoma with secondaries to adrenals, retroperitoneal and bilateral axillary nodes. This report emphasizes this unusual clinical presentation of carcinoma lung with wide spread secondaries; and a solitary thyroid nodule can be a presenting complain of a metastatic disease.

**Key words:** Intrathyroid metastasis, Ultrasound, Carcinoma lung

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Solitary thyroid nodule is common in clinical practice but a nodular intrathyroid metastasis is rare and may be underestimated. There are reports of metastasis to thyroid from lung, kidney, sarcoma and melanoma<sup>1,2,3,4</sup>. Here we present a case of metastatic solitary thyroid nodule of clinically silent lung carcinoma with wide spread secondaries to adrenals, retroperitoneal, axillary lymph nodes.

### Case report

A 60-year-old lady presented to the outpatient door with painless swelling in the neck since eleven month, decreased appetite and weight loss. Swelling in the neck was gradually increasing in size. She did not have difficulty in swallowing, change in voice or any features of hypo or hyperthyroidism. She had been a chronic smoker for past forty years and had clinical symptoms suggestive of chronic bronchitis. There was no history of haemoptysis, chest pain or shortness of breath. Patient was average built. Vitals were stable. On local examination, there was a 3 cm non-tender firm solitary nodule in left lobe of thyroid. Opposite lobe of the thyroid was palpable. A clinical diagnosis of solitary thyroid nodule was made. Ultrasound (USG) of the thyroid showed mild enlargement of thyroid glands with decrease in echogenicity. A well-defined hypoechoic nodule without any calcific foci was seen in left lobe measuring about 2.4 x 2.0 cm (Fig.1). Outline of the thyroid was normal. Fine needle aspiration cytology (FNAC) of thyroid nodule under ultrasound guidance was performed which showed features of metastatic adenocarcinoma (Fig. 2 a, b). Patient was subjected for further detail clinical evaluation. There were palpable, small firm, mobile nodes in bilateral

axillary region. The breast examination was normal. Chest x-ray showed a lobulated irregular central mass in left hilar region (Fig. 3). Subsequent computed tomography (CT) of chest and abdomen showed a large lobulated solid mass in left hilar region with upper lobe collapse, masses in bilateral adrenals, peripancreatic and retroperitoneal lymphadenopathy (Fig. 4, 5).

Further FNAC from the axillary nodes also showed the features of metastatic adenocarcinoma. On bronchoscopy, there was a large mass arising from left upper lobe bronchus. Biopsy confirmed the primary to be lung adenocarcinoma. With these clinical features, radiological findings and results of FNAC from thyroid and axillary nodes and bronchoscopic biopsy a diagnosis of carcinoma lung with intrathyroid, bilateral adrenal and lymph nodal metastasis was made.

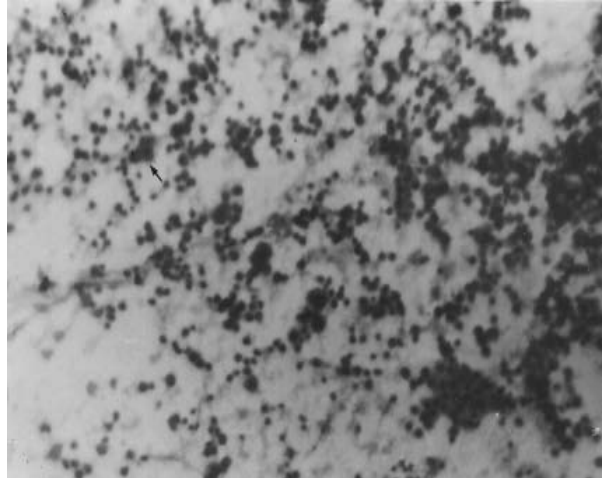
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### Correspondence

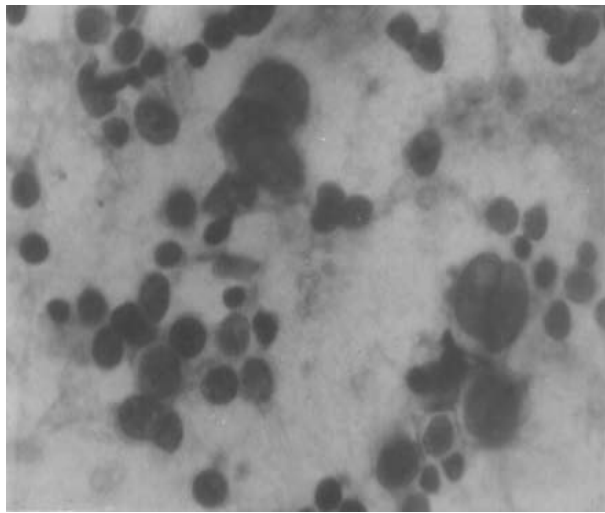
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**Fig 1:** 60/F with solitary thyroid nodule. Ultrasound shows hypoechoic nodular lesion with irregular margin in left lobe of thyroid



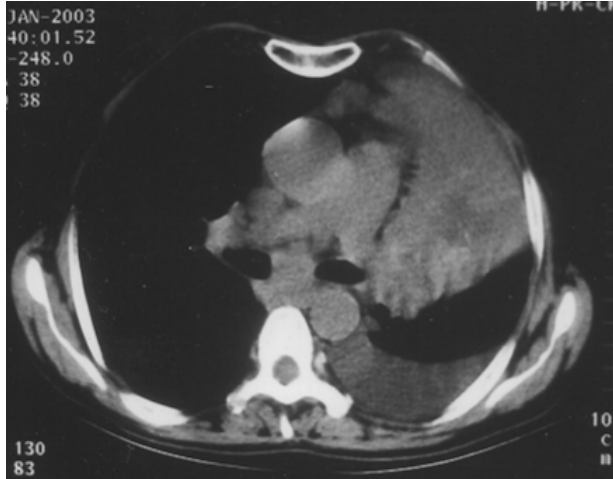
**Fig 2a:** Fine needle aspiration cytology from thyroid showing follicular cells and group of atypical cells with large pleomorphic nuclei attempting to form a gland (arrow) (papanicolau stain X 4).



**Fig 2b:** Fine needle aspiration cytology from thyroid showing follicular cells and group of atypical cells with large pleomorphic nuclei



**Fig 3:** Chest x-ray shows large central lung mass in left hilar region with upper lobe collapse



**Fig 4:** CT chest shows the mass arising from the left upper lobe bronchus with atelectasis of upper lobe and associated pleural effusion



**Fig 5:** Upper abdominal CT shows masses in bilateral adrenals

### Discussion

Metastases in the thyroid gland are very rare. An early diagnosis is critical. There are sporadic reports available of thyroid secondaries. Miyakawa et al reported a case of thyroid metastasis of lung adenocarcinoma in which the patient presented with thyrotoxicosis, neck swelling and cervical adenopathy one month after lung lobectomy<sup>1</sup>. Pleomorphic liposarcoma metastatic to the thyroid gland was reported by Bashir H et al<sup>2</sup>. They found cold nodule occupying most of the right lobe of thyroid on nuclear scanning further confirmed by cytologic analysis.

Atmani et al reported two cases of intrathyroid metastases from kidney cancers, which occurred 3 years and 8 years after nephrectomies<sup>3</sup>. Malignant melanoma metastatic to the thyroid diagnosed with F18 FDG PET scan has been reported by Wolf G et al<sup>4</sup>.

In our case patient presented primarily with neck swelling with clinical impression of solitary thyroid nodule. Further detailed evaluation following fine needle aspiration cytology detected primary in the lung with widespread secondaries to adrenals, axillary, retroperitoneal lymph nodes; which were clinically silent.

From these findings and the clinical course, in a case of solitary nodule in the thyroid gland metastatic carcinoma should be kept in mind. FNAC is diagnostic of metastatic carcinoma. After FNAC relevant investigations are done to find primary lesion.

### References

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