Metastatic Squamous Cell Carcinoma of Oesophagus Presenting as Solitary Nodule Thyroid; a Case Report

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Introduction

Solitary thyroid nodule is common in clinical practice but a nodular intrathyroid metastasis is rare and may be underestimated.[1, 2] There are reports of metastasis to thyroid from kidney, lung, breast, sarcoma and melanoma. Secondary neoplasm of the thyroid mimicking as primary is a rare finding and difficult to diagnose without a past history of malignancy. Among carcinomas metastatic to the thyroid, renal cell carcinoma constitute 50% of cases.[1–5] Oesophageal carcinoma metastasis to the thyroid is uncommon. Secondary tumours of the thyroid are seen almost always with metastases of other organs and systems. The metastasis to the thyroid gland is usually considered as a terminal event, and the effectiveness of the conventional treatment has been questioned. The surgical resection is rarely performed in such cases; hence metastasis to thyroid

gland is rarely seen on the routine pathology practice.[5–8] We hereby report a case of 64 year old female who presented with solitary nodule thyroid, on further evaluation diagnosed as oesophageal carcinoma with metastasis to thyroid.

Case Report

A 64 year old female presented with solitary nodule thyroid since 6 months with recent onset of dysphagia. On local examination showed a solitary nodule measuring 4 × 3 cms in the right lobe and thyroid function test done was normal. Fine needle aspiration cytology (FNAC) done 1 year back in a local hospital was reported as multinodular goitre. FNAC done here showed few dispersed benign follicular cells with clusters of atypical squamous cells favouring squamous cell carcinoma (SCC).[Figure 1] Core biopsy confirmed the above findings with compressed normal thyroid follicles. Many dyskeratotic cells are seen. [Figures 2, 3] Computed tomography neck and thorax showed multiple hypodense lesions in both lobes of the thyroid predominantly affecting the right lobe with calcification [Fig. 4], associated with thickened wall in the middle 1/3 of oesophagus. Lungs were normal with no associated lymph nodes. Esophagoscopy showed ulcerative growth in middle 1/3 of oesophagus with biopsy revealing squamous cell carcinoma (moderately differentiated). [Figure 5]. Complete evaluation revealed no other primary site of malignancy. Hence the final diagnosis of oesophageal squamous cell carcinoma with metastasis to the thyroid was made. The patient was referred to radiotherapy for further management. This case highlights the rare

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Fig. 1 Clusters of atypical squamous cell with few benign follicular cells shown with arrow (MGG, X100)

presentation of the oesophageal squamous cell carcinoma metastasizing to the thyroid presenting as solitary nodule.

Discussion

Among the endocrine organs, due to rich vascularity thyroid gland is the common site of metastasis second only to adrenal gland.[1, 2, 5–7] Although thyroid metastases are uncommon in clinical practice, autopsy data shows a high rate of subclinical involvement. An autopsy study of 1,980 consecutive patients with malignancy found 9.5% of thyroid metastases after meticulous post-mortem examination.[6]

Fig. 2 Metastatic squamous cell carcinoma with compressed thyroid follicles. (H&E, X100)

Fig. 3 Metastatic squamous cell carcinoma with keratinisation. (H&E, X100)

Only 5% of these thyroid metastases had clinically detected thyroidal swelling. Majority of thyroid metastasis is under diagnosed due lack clinical suspicion and overshadowed by the other organ involvement.[6] When thyroid gland is altered by goitre, neoplasm or inflammation, due to altered metabolic activities related to oxygen demand and iodine content predisposes more for metastasis.[5] Thyroid metastasis should be suspected in known cases of non thyroid malignancy especially if there is a solitary and cold nodule on thyroid scan.[5–7]

Primary SCC of thyroid is an extremely rare entity and commonly occurs in 5th to 6th decade with long standing history of goitre.[1, 2] This lesion histologically shows well to poorly differentiated lesions with or without keratinisation. The differential diagnosis includes metastasis, squamous variant of undifferentiated carcinoma, spindle epithelial tumour

Fig. 4 Computed tomography neck and thorax showing multiple hypoechoic lesions predominantly affecting the right lobe of thyroid and calcification in left lobe

Fig. 5 Oesophageal biopsy on histopathology revealing moderately differentiated squamous cell carcinoma. (H&E, X100)

with thymus like differentiation and carcinoma showing thymus like differentiation.[2–5] Synchronous or metachronous carcinoma of the oesophagus and thyroid, though a extreme rarity has been reported.[4] The thyroid carcinoma in these cases are papillary or follicular type. Metastasis needs to be strongly considered whenever the cytology or histology is unusual for thyroid primary. Previous history of malignancy, infiltrative margins and tumour emboli in lymphatic vessels are helpful findings for diagnosis of metastasis.[7, 8]

The metastasis to thyroid can occur by direct extension, haematogenous or lymphatic route and often are multifocal. [2] They can present as solitary nodule as seen in our case. Metastasis to the thyroid usually occur in disseminated cancers and prognosis is poor with average life span of 9 months.[2, 7] FNAC is simple, cheap and safe tool in the diagnosis of metastatic disease. Unnecessary thyroidectomy can be avoided in patients with poor prognosis. [9]

Oesophageal carcinoma is common in developing world with poor prognosis and thyroid gland is an unusual site of metastasis.[8] There are few reports of oesophageal squamous cell carcinoma and adenocarcinoma metastasis to the thyroid presenting as solitary nodule.[2, 7, 9]

The management in thyroid metastasis has not been firmly determined by uniform international consensus. It depends on site of primary tumour, presence of other metastases and local symptoms by the thyroid mass.[2, 7, 9] However, in selected cases (mainly metastases from renal carcinomas), surgical removal of solitary lesions may prolong survival.[6] Although treatment must be individualized, aggressive surgical removal of metastases and external beam radiation therapy are main therapeutic choices.[2, 7, 9]

In conclusion, oesophageal carcinoma metastasis to the thyroid is very rare and it can manifest with solitary nodule thyroid. Every new lesion or exaggerated local finding in the thyroid with known history of malignancy should be considered as metastasis until proved otherwise. Metastasis to the thyroid must be borne in mind in the differential diagnosis of atypical squamous cells in thyroid aspirate and evaluation should be done to look for possible primary in oesophagus.

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