Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2016; 4(9):650-652 **ISSN 2347-9507 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2016.v04i09.006

Cutaneous metastasis from follicular carcinoma thyroid - A rare behaviour of differentiated thyroid carcinoma

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Abstract: Cutaneous metastases from differentiated thyroid carcinomas (DTC) is a rare phenomenon as they usually behave in an indolent manner with low metastatic potential. Follicular thyroid carcinoma (FTC) ranks second among thyroid cancers accounting for 10 – 20% of all thyroid malignancies. Less than thirty cases of cutaneous metastases from FTC have been reported so far in the English Literature and majority affects the scalp. We report a case of a 53-year-old man with fleshy nodules on front and sides of the neck which was proven to be a metastatic follicular carcinoma of thyroid origin, hurthle cell variant.
Keywords: Cutaneous metastasis, follicular thyroid carcinoma, endocrine malignancy.

INTRODUCTION

Differentiated Thyroid carcinomas, account for 1–2% of all new cancer cases [1]. It is the most common endocrine malignancy (90% of all endocrine cancers) and is responsible for more deaths than all other endocrine cancers combined .The annual incidence has worldwide variation, but is estimated to be between 0.5 – 10 per 100,000 population [2]. Histologically thyroid carcinomas are derived from follicular epithelial cells and the usual types include papillary carcinoma, follicular carcinoma, poorly differentiated carcinoma and anaplastic carcinoma. Follicular thyroid carcinoma is the second most common thyroid cancer after papillary carcinoma, but is ranked first in producing distant metastases. The most common sites of metastases of FTC are the bones, lungs, and central nervous system. Cutaneous metastasis is extremely rare in FTC, about 2.5 – 5.8% and the most common site is the scalp [3].

CASE REPORT

A 53 year old male presented to the surgical OPD of Malabar cancer centre, in October 2011 with history of fleshy nodules in the front and side of neck of 14 years duration with rapid increase in size for the last two months. There was no history of breathlessness, dysphagia or recent change of voice. He gave history of lobectomy for thyroid swelling 16 years ago, the histopathology of which was follicular adenoma .On clinical examination, two fleshy nodules of size 2x2cm were seen in the anterior and lateral sides of neck, neither moving with deglutition nor fixed to the underlying structures. No definite thyroid swelling or palpable neck nodes noted.

CECT scan of the neck showed two cutaneous neck swellings with no deeper invasion. Remnant thyroid tissue was seen on the left side and a suspicious paratracheal node on the right side.

FNAC taken from skin nodule was reported as moderately cellular smears showing plasmacytoid cells in clusters with follicular patterns and hurthle cell features, suggesting the possibility of metastasis from follicular carcinoma as the first diagnosis. Other possibilities were a medullary carcinoma or a follicular variant of papillary carcinoma.

He underwent excision of skin nodule and completion thyroidectomy along with removal of the paratracheal node. The intraoperative findings were two skin nodules of size 3x2cm each, with no fascial infiltration. Remnant thyroid lobe on the left side showed nodularity.

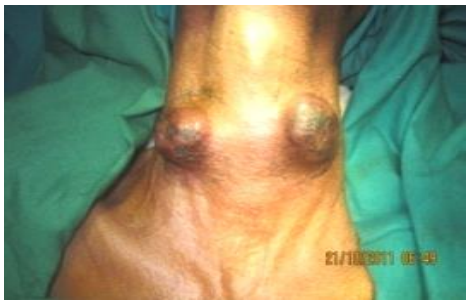

Fig-1: Firm subcutaneous nodules in front of the neck

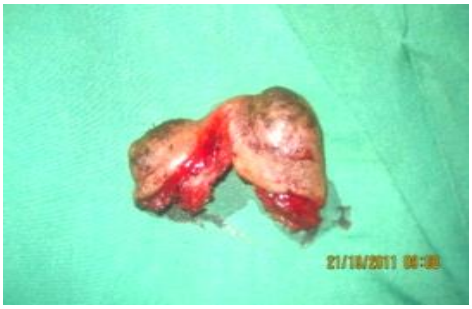

Fig-2: Skin nodules- post excision

Microscopy revealed section of skin nodule bearing a well circumscribed tumor in the subcutaneous tissue with epithelial cells showing Hurthle cell change, arranged in follicular, trabecular and cribriform patterns. Extracellular mucinous material was noted in abundance. With these features a possibility of mucinous adenocarcinoma of skin/thyroid was made. Slides were reviewed at a referral oncology centre with IHC for TTF-1, Thyroglobulin, CEA & p63 done. Tumour cells were positive for both thyroid epithelial markers and negative for CEA & p63. Final report was metastatic thyroid carcinoma-follicular carcinoma with hurthle cell features. Thyroid gland showed no residual neoplasm.

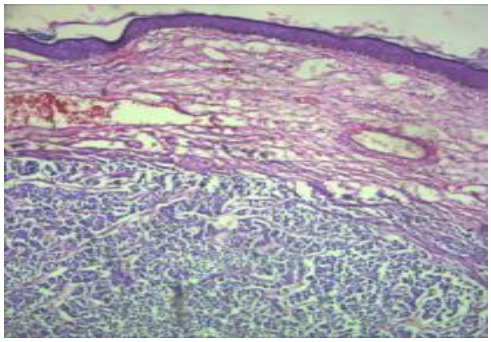

Fig-3: Epidermis with underlying moderately cellular neoplasm

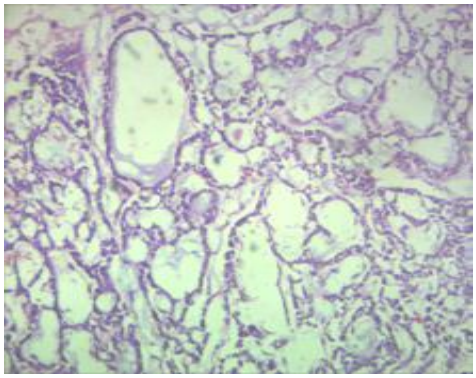

Fig-4: Neoplasm showing follicular pattern with mucinous copmponent

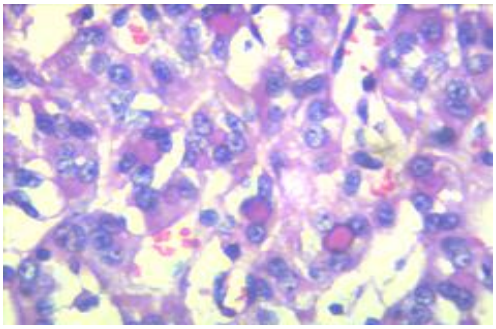

Fig-5: Areas with hurthle cell changes

Post surgery iodine scan was normal. The patient is now on regular follow up with no evidence of residual disease or recurrence till date

DISCUSSION

Cutaneous metastasis is a rare manifestation of differentiated thyroid carcinoma and indicates disseminated DTC disease. English literature review from 1964 onwards by Dahl *et al* found forty three cases of thyroid carcinoma with skin metastases with papillary carcinoma being the most common type to result in skin metastases (41%), followed by follicular carcinoma(28%) with anaplastic carcinoma and medullary carcinoma each contributing 15% [4,5].

This was in contrast to a series by Koller *et al* who reported that of all thyroid carcinomas, follicular carcinoma has the greatest preponderance for cutaneous metastases [6].

Skin lesions typically present as slowly growing erythematous / purple plaques or nodules, usually on the scalp, face, or neck with scalp being the most common site. The lesions are usually fleshy, may be solitary or multiple and are almost always asymptomatic. Ulceration is not seen (2)

Metastatic thyroid carcinoma involving the skin can easily be mistaken for a primary skin adnexal tumour. The correct diagnosis requires a high index of suspicion and the liberal use of immunohistochemical stains for correct diagnosis [7].

Cutaneous metastases in patients with DTC indicate a poor prognosis and most treatments are palliative [8].

In our case, the patient had a history of thyroid lobectomy for follicular adenoma. He developed asymptomatic, slowly growing skin nodules in the neck within two years of the thyroid surgery which were clinically considered as benign skin lesions for 14 years. FNAC followed by histopathological examination of the excision biopsy, supported by IHC, proved the lesion to be metastatic follicular carcinoma.

CONCLUSION

We have presented an unusual case of aggressive FTC with a novel presentation- metastatic tumour clinically masquerading for long time as a benign skin adnexal tumour, imposing serious treatment delay and management confusions.

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