Papillary thyroid microcarcinoma diagnosed in a patient presenting with hyperthyroidism

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Abstract

Papillary thyroid microcarcinoma is not uncommon and constitutes almost one third of all differentiated thyroid carcinomas. It is generally regarded as low risk and usually an incidental finding from histopathology examination. Some areas of management of this entity remains uncertain and requires a multidisciplinary approach. We present a patient who initially came to us with symptoms of hyperthyroidism, later underwent thyroidectomy for a suspicious lesion but was found to have micropapillary thyroid carcinoma in another part of her thyroid gland.

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Clinical Case

Our patient is a 54-year-old woman with background diabetes and hypertension. She was initially admitted for symptomatic fast atrial fibrillation. There was no family history of thyroid disorders. She had a palpable right neck nodule measuring 2 x 3 cm with no clinically apparent lymphadenopathy. There were no clinical features of Grave's orbitopathy. Thyroid function test was consistent with hyperthyroidism with free T4 of >100 pmol/l (11.5-22.7) and suppressed TSH of < 0.01 mIU/L (0.55-4.78). Thyroid antibodies were negative. Hyperthyroidism was treated with Carbimazole and a beta blocker. Ultrasound neck showed a solitary right cystic lesion with septation within measuring 3.2 x 2.9 x 2.9 cm. There was no lymphadenopathy and the left thyroid lobe was normal. Fine needle aspiration for cytology (FNAC) of the solitary lesion yielded only cystic content. A repeated ultrasound post FNAC showed a previously seen solitary thyroid lesion measuring 1.2 x 1.1 x 1.5 cm with dense calcification within. Right hemithyroidectomy was performed in view of the suspicious ultrasound findings and post operative histopathology examination (HPE) revealed an area of focal fibrosis measuring 1.7 x 1.5 x 2.3 cm (corresponding with the solitary lesion found on ultrasound). There was also a single foci of papillary microcarcinoma measuring 0.5 cm with involvement of a cervical lymph node. Background multinodular goitre and lymphocytic thyroiditis were also seen (Figures 1 and 2). She underwent completion thyroidectomy with central lymph nodes dissection in August 2016. Subsequent HPE did not show involvement on left thyroid gland. Whole body scan performed on 17/10/2016 showed evidence of iodine avid functioning tissue in the thyroid bed. She received ablative RAI of 100 mCi I-131.

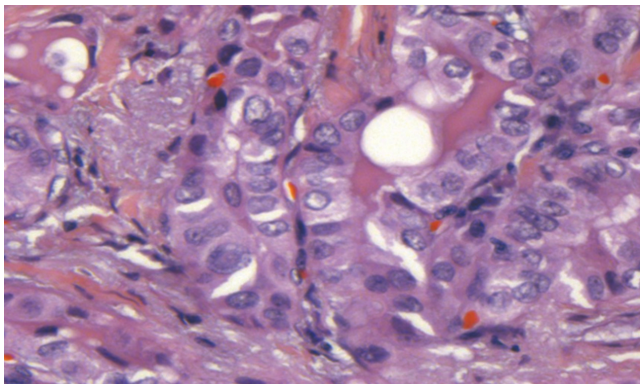

Figure 1: Malignant cells exhibit open nuclei with intranuclear cytoplasmic inclusion. (400X magnification)

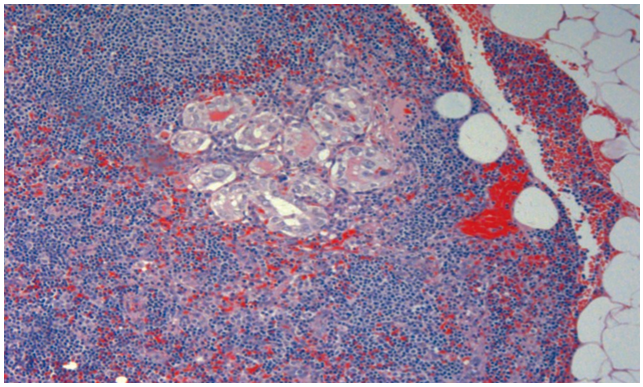

Figure 2: Lymph node with tumour metastasis. (100X magnification)

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Discussion and Literature Review

By definition, microcarcinoma refers to papillary carcinoma measuring 10 mm or less in greatest dimension and is often an incidental finding. Interestingly, surgery was opted for our patient in view of another suspicious lesion; which turned out to be benign. Instead, papillary microcarcinoma was discovered. Thyroid cancers have been reported to be found in up to 21.1% of patients who underwent surgery for thyrotoxicosis.[1] Papillary thyroid microcarcinoma is the commonest, followed by minimally invasive follicular carcinoma and medullary thyroid carcinoma. Thyroid cancer has been found more commonly in patients with Grave's disease compared to those with toxic multinodular goitre which our patient has. The reported incidence of thyroid cancer discovered in patients with toxic multinodular goitre ranges between 1.8–8.8%.[2] In papillary thyroid microcarcinoma, cervical lymph node involvement is relatively common and reported in up to 50% of cases. Incidence of distant metastases is low at 0 – 3%.[3] The prognosis of papillary microcarcinoma is reassuringly good with very low mortality and morbidity. Management objectives include reduction of locoregional recurrence, prevention of metastases and minimising iatrogenic morbidity. Total thyroidectomy and therapeutic lymph node dissection is the current recommendation for patients with papillary microcarcinoma with cervical node involvement.[3]

Conclusion

This case illustrates that multiple thyroid pathologies can occur in a single patient and careful multidisciplinary assessment would benefit patients with complex presentations like this. In our patient, a thyroid uptake scan (which is not available in our hospital) prior to surgery may have given us additional useful information to aid in the management.

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