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Case Report

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A Case Report: Hürthle Cell Carcinoma of the Thyroid Gland

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ABSTRACT

A case of Hürthle cell carcinoma, diagnosed postoperatively on histopathological examination of the subtotal thyroidectomy tissue material, is presented. Subsequently total thyroidectomy was performed, followed with hormonal replacement therapy and external radiotherapy to the neck. *©2004, Fırat Üniversitesi, Tıp Fakültesi*

Key words: *Hürthle cell carcinoma, thyroid gland*

ÖZET

Bir Olgu Sunumu: Tiroid Bezinin Hürthle Hücreli Karsinomu

Ameliyat sonrası subtotal tiroidektomi doku materyalinin histopatolojik incelemesi sonucu Hürthle hücreli karsinomu tanısı konulan bir vaka takdim edilmektedir. Takiben, total tiroidektomi yapıldı, hormon replasmanı ve boyun bölgesine eksternal radiyoterapi ile tedavi edildi. *©2004, Fırat Üniversitesi, Tıp Fakültesi*

Anahtar kelimeler*: Hürthle hücreli karsinom, tiroid bezi*

Hürthle cell carcinoma (HCC) is considered as variants of follicular thyroid carcinoma (1,2). They are derived from the oxyphilic cells of the thyroid gland and usually produce thyroglobulin but typically do not take up radioactive iodine (3). HCC is often multifocal, bilateral and more likely to metastasize to local lymph nodes (2-6). HCC usually presents as a mass in the neck, cervical lymphadenopathy, and vocal cord paralysis but distant metastases are rare at presentation (2). It is a rare variety of differentiated thyroid carcinoma and fewer than 400 cases of HCC have been reported in the medical literature (7). We report a case of this rare disease diagnosed postoperatively on histopathological examination of the subtotal thyroidectomy tissue material that could otherwise be missed with consistence to solely routine diagnostic tools used in thyroid gland diseases evaluation.

CASE REPORT

36 years old male patient referred to our Surgical Department complaining of a lump in the neck for three years duration. The lump had increased in size gradually throughout this period but caused no difficulty in swallowing or respiration. There were no recent loss of weight, no sweating, and no palpitation.

On physical examination of the neck, there was multinodular enlargement of the thyroid gland. Thyroid function tests were within normal limits. Thyroid ultrasonography revealed multinodularity of the both thyroid lobes with hypoechogenic cystic lesions scattered throughout the gland. Thyroid scintigraphy demonstrated a cold area toward the upper pole of the right lobe with diffuse distribution of the isotopes in the left lobe. Throughout a collar skin crease incision a subtotal thyroidectomy was performed. Histopathological examination of the removed thyroid tissue reported Hürthle cell carcinoma in the left lobe of the gland showing capsular and vascular invasion. Whole body scintigraphy demonstrated residual thyroid tissue remnant in the neck with no metastatic lesions. Therefore, excision of the remnant of the thyroid tissue was completed with total thyroidectomy that was documented scintigraphically after the second operation. The patient was further treated by hormonal replacement therapy with thyroxine and external radiotherapy to the neck.

DISCUSSION

Hürthle cell carcinoma (HCC) of the thyroid gland is a rare neoplasm that comprises 2% to 10% of all differentiated thyroid cancer (1,8). HCCs seem to be of follicular cell origin andare classified as variants of follicular thyroid carcinoma (1). The peak incidence occurs in the fifth to seventh decade of life (9). HCC are even older than patients with follicular carcinoma (10). However, the presented case is relatively young (36 years) in age. Women are affected more often than men, by a ratio of 2:1 to 3:1, although a nearly 2:1 predominance of men has been noted in some series (3,4,11). HCC usually presents as a mass in the neck; lymphadenopathy, vocal cord paralysis. HCC is multifocal in 15% to 35% of cases, lymph node metastases are present at initial diagnosis in up to 20% of cases

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(5,6,11). This particular patient had the goiter for three years duration and its enlargement had been gradual with no symptoms of compression to trachea or esophagus. His pre- and post-operative evaluation demonstrated no regional or distant metastases so ever. HCCs usually do not take up radioactive iodine; therefore, the use of radioactive iodine for diagnostic purposes to detect regional or distant metastases in these patients is not of value (3). Instead, Tc^{99m} -sestamibi scaning has been reported to be useful for detecting persistent local or metastatic disease (2). Another study, however, reported that some patients with recurrent or metastatic Hürthle cell carcinoma might accumulate sufficient ^{131}I to warrant therapy with this nuclide (12). In this presented case, whole body Tc^{99m} scintigraphy, including the neck region, after the second operation demonstrated no metastatic lesions in the neck or elsewhere.

Total thyroidectomy is the mainstay of treatment for HCC. Some authors suggest that HCC spreads to the cervical lymph nodes more frequently than follicular cancer and ipsilateral central neck lymphadenectomy is to be considered in the management of these patients (7,13). This reported patient was treated with total thyroidectomy at the second operation. However, no lymph node could be palpated at the neck and cervical lymph dissection was not found necessary.

Furthermore, it is well established that patients with nodal metastases, vascular invasion, soft-tissue invasion, or DNA aneuploidy may benefit from adjuvant external radiotherapy to the neck, especially when the tumor fails to concentrate radioiodine (7,14). Therefore, the present patient was referred to Department of Radiotherapy for adjuvant external radiation to the neck.

Thyroid ultrasonography, scintigraphy, and fine needle aspiration cytology (FNAC) are the main routine diagnostic aids used in the assessment of thyroid gland lesions. Thyroid scintigraphy demonstrated a cold area toward the upper pole of the right lobe that raised the possibility of thyroid cancer. Though FNAC was not performed in this particular case, however it would not be of much help if it had been applied for the scintigraphically localized cold area. Since, postoperative histopathological examination of the removed thyroid tissue by subtotal thyroidectomy surprisingly revealed Hürthle cell carcinoma in the contralateral (left) lobe of the clinically suspected site (right lobe) for the cancer. This malignant lesion would otherwise be missed by not only with FNAC to the suspicious cold area at the right lobe, but also with right hemithyroidectomy, if this operation had been selected in the management of this particular patient. Therefore, subtotal thyroidectomy should be a standard treatment model not only to remove the contained necrotic, degenerative nodules that misshapen the normal structure of the gland causing pressure symptoms but most importantly to exclude the possibility of malignant lesions in these multinodular goiters.

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