Case Report

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Thyroid Metastases from Renal Carcinoma

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Key Words

Kidney

Thyroid metastasis

Clear-cell

Renal carcinoma

Abstract

The identification and diagnosis of thyroid metastases from renal adenocarcinoma are rare in living patients, though more frequent during autopsy. A case is reported in which the identification of thyroid metastases indicated a clear-cell renal carcinoma in a kidney treated 12 years earlier for emptying of multiple cysts.

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Introduction

The clinical observation of thyroid metastases from clear-cell renal carcinoma is rare, despite the relative frequency with which these metastases are identified at autopsy.

The purpose of this paper is to report a case of clear-cell renal carcinoma in which thyroid metastasis was the first clinical sign of the primary neoplasm.

Clinical Report

V.A., a 54-year-old woman, had undergone kidney surgery 12 years before being admitted to our department, when multiple cysts in the mid-lower portion of the right kidney had been opened and drained. Six months before her referral to our department, the patient had happened to notice a swelling of the right hemithyroid.

She had undergone thyroid ^{99m}Tc scintigraphy, showing the presence of an isoactive nodule, about 3 cm in diameter, in the lower two thirds of the right lobe.

Blood chemistry tests and triiodothyronine, thyroxine and thyrotropin assays, both basal and following challenge, were performed at the same time, giving normal values. On the basis of these results, the patient was admitted to another hospital for surgical removal of the right thyroid lobe.

Macroscopically, the growth removed was of a whitish-yellow color and a denser consistency than the surrounding tissue. Histo-logical examination showed its structure to be in part microfollicular and in part compact; cells were polygonal, with clear, apparently

Fig. 1. Thyroid with metastases from renal (clear)-cell carcinoma (below). Hematoxylin-eosin. $\times 150$.

348

Prati/Muolo/Dean/Ghimenton

empty cytoplasm containing periodic acid-Schiff-positive granules in groups, delimited by a sinusoidal vascular network.

Certain features also seemed to show a transition between follicular and clear cells. On the basis of these histological findings, a probable metastasis of a clear-cell renal carcinoma was diagnosed.

The patient was referred to us for further diagnosis. Urography showed the left side to be normal, while the right side bore a number of shadowy, relatively transparent, round or hemispheric markings on the pelvis, the ureter and the calices of the middle and lower group.

The lower portion of the right kidney also showed below-normal iodine uptake. All these findings were compatible with the X-ray diagnosis of renal multiple cysts.

Subsequent angiographic examination identified a neoplastic, anarchically distributed circulation, with an intense parenchymo-graphic effect and a precocious venous return.

Radical enlarged right nephrectomy was performed for the removal of the renal carcinoma identified. Histological examination of the removed kidney confirmed the presence of a clear-cell renal carcinoma in the mid-lower portion.

Five years later, the patient is in good health. Chest X-ray, liver echography, bone and thyroid scintigraphy are all normal.

Discussion

The thyroid is a relatively infrequent site for metastasis from primary neoplasia of other glands or organs. Such metastases, when occurring, are usually identified at autopsy, without prior clinical evidence of their presence.

They are mainly related to melanoma (35% of cases) and breast cancer (20%), followed by pulmonary and renal neoplasia and cancers of the digestive and reproductive systems. Possible factors explaining the slow development of thyroid metastases are the filtering activity of the lungs,

the role of the thyroid circulation in impeding metastatic settling, the high concentration of oxygen and iodine in the thyroid, the supposed cytostatic effect of the thyroid hormones on metastatic cells and, finally, the effect of synthetic antithyroids [1].

Identification of thyroid metastases from clear-cell renal carcinoma is a rare event, often arising by chance in the course of clinical observations and treatment. Bacourt et al. [2] reported 3 such metastases following an examination of 4,000 tissue samples from partial or total thyroidectomy operations.

The rarity of the clinical identification of thyroid metastases by comparison with their frequent occurrence as a finding at autopsy is possibly explained by their slow, in most cases asymptomatic development. Only in exceptional cases do they determine thyroid hormone abnormalities or clinical signs and symptoms which provide clear evidence of thyroid dysfunction.

References

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