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(CASE REPORT)

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Incidental discovery of a left mid-renal mass: Thyroid-like renal cell carcinoma

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Abstract

Follicular renal cell carcinoma of the thyroid type is a new entity, very rare and poorly documented, its diagnosis is based on radiological, histological and immunohistochemical studies and histologically characterized by follicular architecture. In our article we will present a case of a chance discovery of a left mid-renal mass in a 56-year-old man, without clinical manifestations with preservation of general condition. The surgical procedure performed was a left partial nephrectomy. The histological diagnosis of the specimen was thyroid-like renal cell carcinoma.

Keywords: Nephrectomy; Partial; Carcinoma; Thyroid; Like

1. Introduction

Carcinomatous tumors of the kidney, represent 80-85% of all malignant tumors of the renal cortex, whose predominant histological type is clear cell renal cell carcinoma, papillary carcinoma, oncocytoma, chromophobe carcinoma and others less frequent. [1,2]

Follicular renal cell carcinoma of the thyroid type is a new entity described, very rare and poorly documented. It does not show specific clinical signs and the diagnosis is based on radiological, histological and immunohistochemical studies. [3,4] This tumor is characterized histologically by follicles reminiscent of well-differentiated follicular thyroid carcinoma, whose follicles are filled with colloid and showing cytonuclear atypia generally grade 2 or 3 of Fuhrman. [1, 5] In our article we will present a case of a 56-year-old patient, who presents a left renal mass whose histological diagnosis is thyroid-like renal cell carcinoma and make a bibliographic review of the theme.

2. Observation

This is a 56-year-old male patient, with no medical, surgical or smoking history, the onset of symptoms dates back 7 months for the fortuitous discovery of a left renal mass during a general assessment. All evolving in a context of apyrexia and preservation of the general condition.

Clinical assessment: - general, stable patient, well oriented in time and space, the conjunctival mucosa is normal in color; Abdominal, soft abdomen, no lumbar contraction, normal external genitalia.

On imaging: Left mid-renal tissue lesion process with exophytic development, well limited with lobulated and regular contours enhanced heterogeneously after injection of contrast product, contain areas of necrosis measuring 55x54x44 mm. The other structures without anomalies. In conclusion: Left mid-renal mass with tumoral appearance, without obvious loco-regional infiltration.

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Based on the previous results, surgery was indicated, the procedure performed was a partial left nephrectomy. Histological examination showed tumor proliferation made of clusters and follicles filled with an eosinophilic substance. Tumor cells with enlarged nuclei, anisokaryotic and hyperchromatic, with nucleolus visible at high magnification, WHO/ISUP grade II (Figure 1). Immunohistochemical studies show expression of tumor cells to anti-Racemase and anti-Cyclin D1 antibodies (Figure 2). Loss of expression to anti-CK7, anti-CD10, anti-TTF1 and anti-Thyroglobulin antibodies (Figure 3).

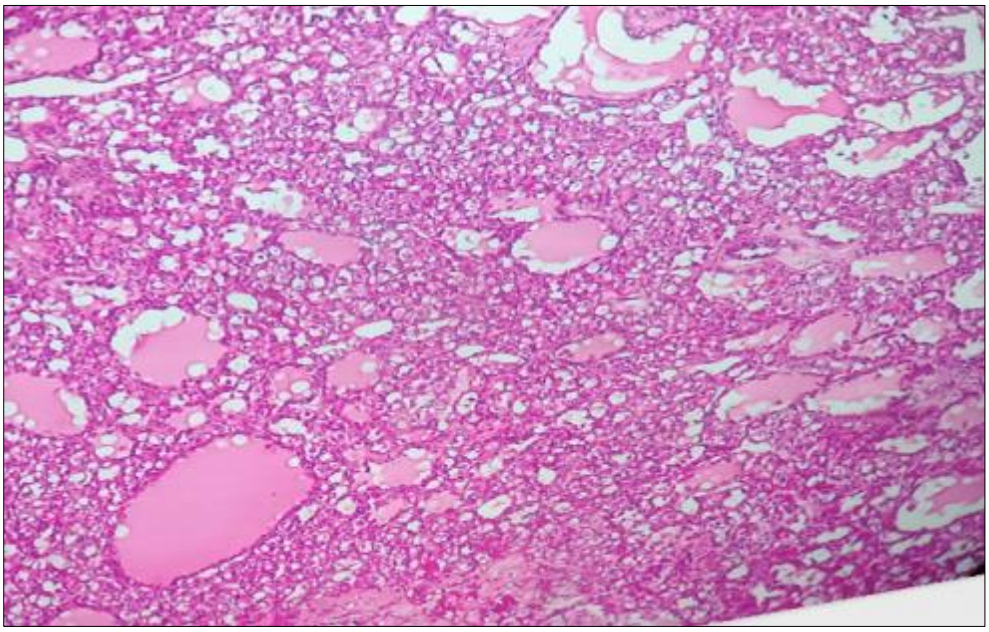

Figure 1 Tumor proliferation made up of follicles of varying size and shape.

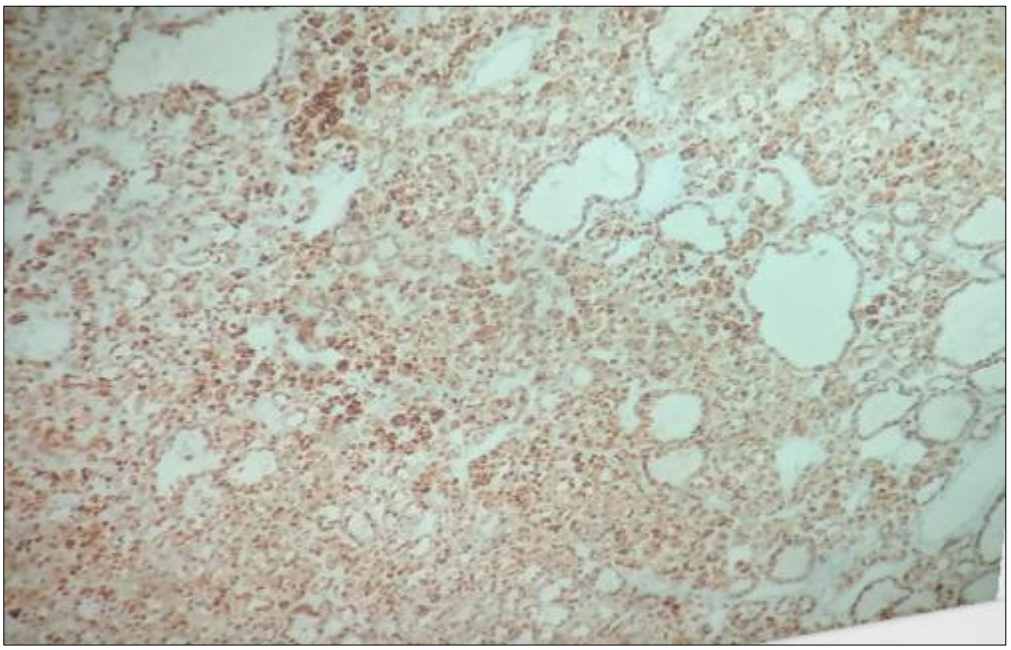

Figure 2 Positive labeling by anti-racemase and anti-cyclin D1 antibodies.

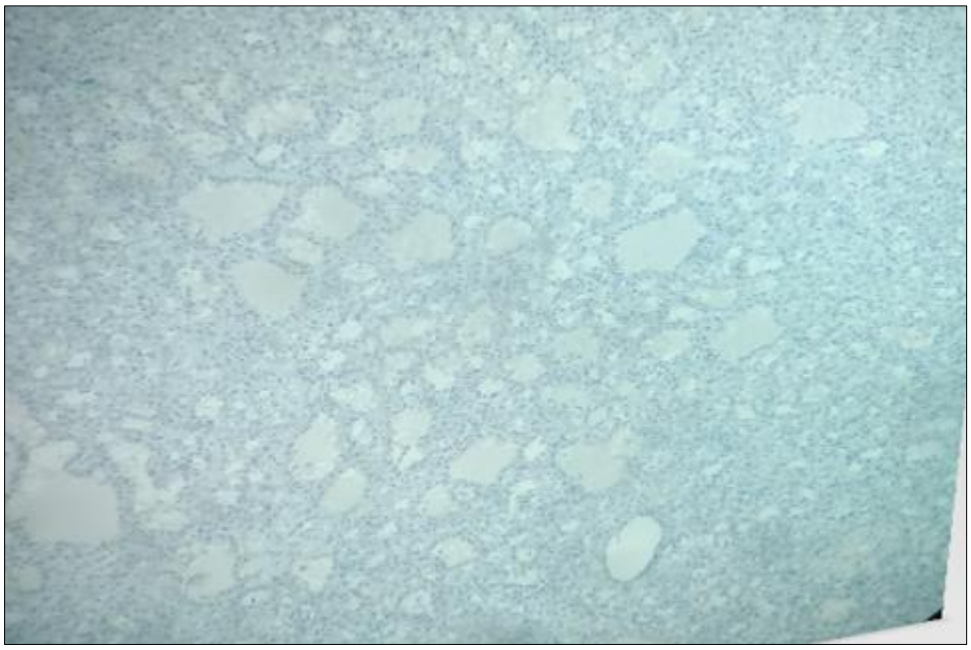

Figure 3 Loss of expression by anti CK7, anti CD10, anti TTF1 and anti Thyroglobulin antibodies.

3. Discussion

Renal cell carcinomas occupy 3 to 4% of all neoplasms and 80 to 85% of malignant tumors of the renal cortex. The most frequent histological subtypes are: clear cell, papillary, oncocytoma and chromophobe. Thyroid-like renal cell carcinoma is very rare and is characterized by its morphology similar to well-differentiated follicular thyroid carcinoma but negative for thyroid marker expressions. [6, 7]

The mean age of patients is 42.3 years with the extreme of 19 to 83 years, the female sex being most often affected occupying 65.4%. [8] Our patient is male and aged 56 years. Thyroid-like RCCs are usually incidental (asymptomatic) findings and are often small and confined to the kidney, with rare cases of large tumors. In some cases they may be associated with some urinary symptoms such as flank pain and hematuria. There has also been a case of hypertension associated with this tumor, which regressed significantly after tumor surgery [9]. Our patient did not have any symptoms.

Radiological examinations such as ultrasound, CT scan or MRI can be used to detect the tumor, but they are not reliable as a diagnosis of these tumors because they cannot distinguish it from other differential diagnoses. CT scan is the best method to identify and describe this tumor. [9]

In the majority of cases, the lesions are unilateral and are often located in the right kidney. These tumors tend to be located in the middle pole of the kidney and in the peripheral region [10]. In our case the tumor is mid-renal and exophytic of the left kidney.

The differential diagnosis of these tumors is metastatic thyroid carcinoma (are extremely rare in the kidney and express thyroid markers); eosinophilic renal cell tumors (they do not express Racemase, and the chromophobe is CK7 positive), clear cell RCC (It expresses CD10) and in addition thyroidization [9, 11]

Thyroid-like renal cell carcinoma is a well-defined mass in a kidney, often discovered accidentally and having a thick capsule. Thyroidization is often the result of end-stage renal failure or pyelonephritis and is diffuse and bilateral. [9]

Surgical treatment is the main method to treat these tumors, either by total or partial nephrectomy. For tumors with distant metastases or invasive growth, radical excision is performed, while tumors less than 6 cm in diameter, with a complete capsule and without metastases are treated by partial resection or tumorectomy [10]. These lesions have a low degree of malignancy, a low recurrence rate and a low rate of metastases [10]. In our case, the tumor measured 5.5 cm in the long axis and the surgical procedure performed was a partial nephrectomy. The postoperative course, the evolution of our patient is good, the control assessments are all negative.

4. Conclusion

Thyroid-like renal cell carcinoma is very rare without specific clinical signs, the diagnosis of which is based on radiological, histological and immunohistochemical studies. These tumors are characterized histologically by follicles filled with eosinophilic substance and showing cytonuclear atypia. Before retaining the diagnosis of thyroid-like renal cell carcinoma, it is important to eliminate thyroid metastasis at the renal level, eosinophilic renal cell tumors and thyroidization.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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