Urology Case Reports 15 (2017) 36–38

Contents lists available at ScienceDirect

Urology Case Reports

journal homepage: www.elsevier.com/locate/eucr

Oncology

Thyroid-like follicular carcinoma of the kidney - Case report

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ARTICLE INFO

Article history:
Received 7 August 2017
Received in revised form
16 August 2017
Accepted 18 August 2017
Available online 14 September 2017

Keywords:
Thyroid-like
Nephrectomy
Follicular

1. Introduction

Renal carcinoma cell is responsible for 3–4% of all neoplasms and 80–85% of malignant tumors of the renal cortex. The most frequent histological subtypes are: clear cells (approximately 75%), papillaries (10%), chromophobes (5%), oncocytoma (8%), angiomyolipoma (<1%). Among the less common histological types are the medullary carcinomas (1%), collecting ducts (1%), Xp11 translocation (<1%) and Wilms tumor (nephroblastoma), the latter predominantly in children.[1]

Recently a new entity has been described as thyroid-like follicular carcinoma of the kidney. It is a neoplasm that resembles follicular carcinoma of the thyroid gland due to its architecture with abundant colloid content and should not be confused with chronic pyelonephritis with thyroidization or renal metastasis of thyroid cell carcinoma.

2. Case presentation

We reported the case of a 29-year-old patient, previously healthy, asymptomatic, with a single left renal lesion, solid, perihilar, 3 cm in diameter and initially accidentally seen as a hyperechoic mass on a routine examination.

A contrast tomography (CT) with solid left renal lesion and low contrast enhancement was observed. Due to the difficulty of understanding the possible etiology of this tumor, magnetic resonance imaging (MRI) was required, showing an expansive formation, well defined, heterogeneous, endophytic contour, between the middle and upper third, intimate contact with the renal sinus, with no apparent vascular invasion Measuring approximately 3.4 cm and poor in intra-cellular fat (Fig. 1).

Patient was resistant to surgical treatment and was then referred for percutaneous biopsy. The result revealed a neoplasm with macro and microfollicular pattern, suggestive of the rare entity described as “thyroid-like follicular carcinoma of the kidney”.

Based on the diagnosis, the possibility of cryoablation was ruled out, due to the position of the mass in relation to the renal wire. Patient underwent a radical nephrectomy by videolaparoscopy and the definitive anatomopathological diagnosis after Immunohistochemica confirmed Fuhrman's grade I follicular renal carcinoma, well delimited, expansive growth, restricted to the kidney, 3.5cm in diameter, with free margins. The antibodies CK20, CAM-5.2, TTF-1, Tireoglobulina, 34BE12, 35BE11, WT1 and Caderina were negative and the antibodies EMA, CEA-P, CD10 were focally positive. (Figs. 2–3).

Patient presented a good evolution after surgery, being discharged on the first postoperative day. Followed with no complaints 18 months after the follow up.

3. Discussion

Thyroid-like follicular carcinoma of the kidney is a recently described entity (1996)[2] and extremely rare with approximately 26 cases reported in the medical literature. The average age of the patients is 42.3 years (19–83 years of age), with the female sex being the most commonly affected (17/26, 65.4%).[3] This prevalence differs from renal cell carcinoma whose prevalence is highest in males and in age average.

The tumor was diagnosed incidentally in 13 of the 26 cases, 10 cases to the left (38.46%) and 16 cases to the right (61.54%). In the other 13 cases the patients were symptomatic. The most common symptoms were macroscopic hematuria and abdominal pain. The average tumor size was 4.75cm (ranging from 1.1 to 11.8cm).

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http://dx.doi.org/10.1016/j.eucr.2017.08.005

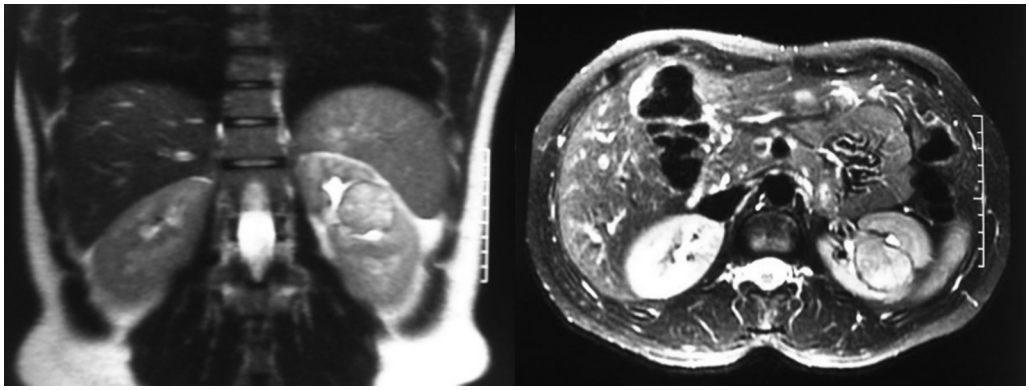

Fig. 1. MRI showing expansive formation, well defined contours, heterogeneous, endophytic, between the middle and upper third, intimate contact with the renal sinus, with no apparent vascular invasion measuring approximately 3.4 cm.

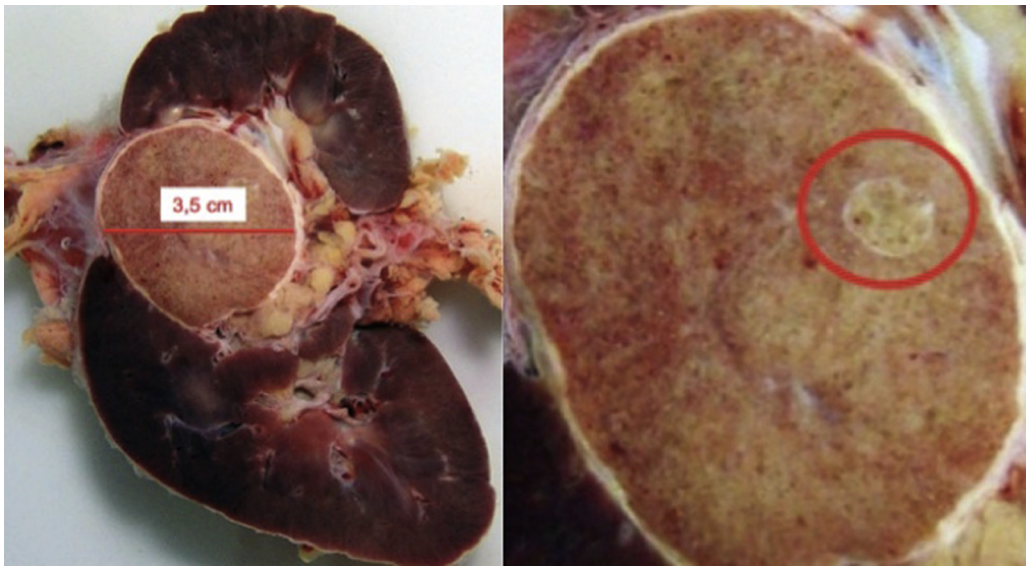

Fig. 2. Macroscopic view of the tumor.

The diagnosis by images becomes difficult to differentiate from renal cell carcinoma since thyroid-like carcinoma does not have a specific characteristic. This way, the renal biopsy can help in the diagnosis.

In its histological presentation, follicles are covered by cells with eosinophilic cytoplasm, rare nucleo may present pseudoinclusions or grooves, they form micro and/or macrofollicules filled with proteinaceous eosinophilic material, resembling follicular carcinoma of the thyroid. Papillary forms are even rarer than follicular forms. They usually present Fuhrman II or III nuclear grade. Immunohistochemistry showed positive CD10, Vimentin, CK7, AE1/AE3, PAX-2 and CAM 5.2 as negative markers and TTF-1, TG and RCC negative markers.

Its differential diagnosis should be made with metastasis in the kidney of primary thyroid neoplasm, metastasis in the kidney of ovarian teratoma composed of thyroid tissue (struma ovarii) and chronic pyelonephritis. Thyroidization is a benign process that affects kidneys with end-stage renal disease or pyelonephritis. It is usually bilateral.[4]

Metastasis in the primary thyroid tumor kidney is extremely rare, containing only 16 cases reported in the literature. The differential diagnosis is easily given by the positivity of the TTF-1 and thyroglobulin markers. When primary metastasis of the thyroid is observed 50% follicular carcinoma, 34% papillary with follicular variant and only 16% in classic papillary form. It occurs bilaterally in 21% of cases.[5]

Although, all cases of primary thyroid-like carcinoma of the kidney were low grade and indolent, two cases had metastases. One of them is metastasis to peri-hilar lymph node and lung and another only to the lung, all confirmed with biopsy. However, until the given moment there are no reports of deaths related to these tumors (cancer-specific death).

The treatment of choice for all cases of thyroid-like carcinoma of the kidney is still nephrectomy (parical or total) due to the risk of considerable malignancy.

4. Conclusion

In conclusion, thyroid-like carcinoma of the kidney, which is a rare variant of renal cell carcinoma, has unique morphological and immunohistochemical characteristics. Based on the few reported cases, this histological type occurs mainly in young women and its clinical manifestations are the same as in other renal tumors. Image tests often do not provide enough information to differentiate the

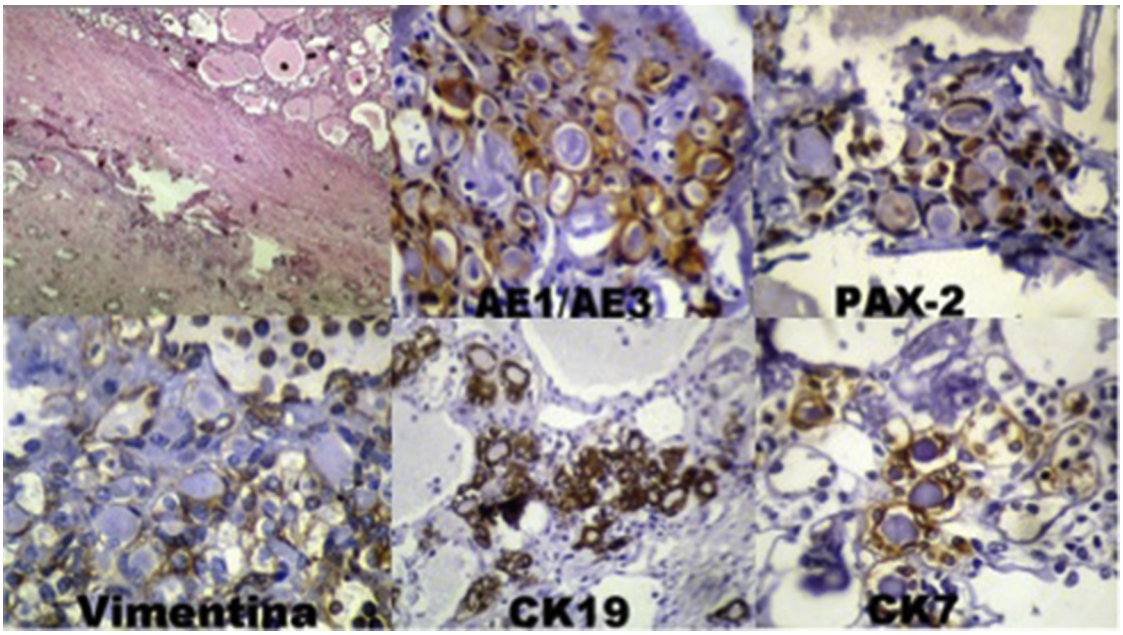

Fig. 3. Microscopic view of the tumor and Immunoshistochemical stains.

lesion as benign or malignant. Confirmation depends on pathological examination with immunohistochemistry. Surgical treatment is still the preferred therapeutic method. The disease seems to have a good prognosis, however, the number of cases is small and the follow-up time is still short.

In the portrait case, the patient presented a good postoperative evolution and a postoperative follow-up as expected, with no signs of disease recurrence and completely asymptomatic after 5 years of follow up.

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