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Renal mucinous tubular and spindle cell carcinoma: A case report

Moez Rahoui *, Rami Boulma, Hassen Khouni

Service d'Urologie, Hôpital FSI La Marsa, Tunis, Tunisia

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Tubular-mucinous and spindle cell carcinoma was first described in 1998 by Qun He. Representing less than 1% of renal tumors, it was included in the latest 2004 WHO classification of kidney tumors as a separate entity. This tumor has a relatively good patient prognosis when compared with other malignant renal tumors. Through this clinical case, we address the epidemiological, diagnostic, histological, and therapeutic aspects of tubule-mucinous and spindle cell carcinoma of the kidney.

1. Introduction

Tubular-mucinous and spindle cell carcinoma of the kidney is a rare entity first described in 1998 by Qun He. It was included in the latest 2004 WHO classification of kidney tumors as a separate entity. This tumor has a relatively good patient prognosis when compared with other malignant renal tumors. Through this clinical case, we address the epidemiological, diagnostic, histological, and therapeutic aspects of tubule-mucinous and spindle-shaped carcinoma of the kidney.

2. Case report

A 39 years old, old smoker, with no medical history, presented for urology consultation for exploration of severe right low back pain dating back one year. Clinical examination revealed a tender mass on the right flank giving lumbar contact. The computed tomography confirms the presence of an upper-right polar lesion process with a tissue density measuring 7* 8 cm on the axial plane with a large axis of 8 cm is enhanced in a heterogeneous manner after injection of the contrast product (Fig. 1A,B). The patient underwent an upper right polar hemi-nephrectomy by subcostal approach. Macroscopically, it is a well-defined polar parenchymal mass of 7 × 8 × 7 cm encapsulated with a friable beige appearance. Histological examination was in favor of a fusiform tubular-mucinous and spindle cell carcinoma without capsular or hilar invasion (Fig. 2). Immunohistochemically staining revealed that the tumor cells were diffusely positive ofCK7, AMACR, EMA, and E-cadhérine (Fig. 3) but the tumoral cells were CD10-negative. The patient was classified at intermediate progressive risk according to the US (UCLA integrated staging system) prognostic system (TNM stage: T2a N0 M0, Fuhrman grade: 2, ECOG performance status = 0), thus justifying a postoperative monitoring protocol by clinical examination, Thoraco-abdominal CT and creatinine clearance according to the MDRD (Modification of Diet in Renal Disease) formula, every 6 months for 3 years then every year for 2 years then every 5 years. After a follow-up of 22 months, the evolution is still favorable, without local or contralateral recurrence or secondary localization and its creatinine clearance calculated by the MDRD formula was 82 m/min.

3. Discussion

Tubular-mucinous and spindle-shaped carcinoma first described in 1998 by Qun He. Representing less than 1% of renal tumors.[1] Typically, the majority of patients present with asymptomatic masses, often found incidentally by ultrasound. In a few cases, the patient may present with flank pain or hematuria. This entity is distinguished by its female predominance (sex ratio 1/3), its favorable prognosis, its medullary location, and its particular morphology which associates a tubular and spindle-shaped architecture within a distinctly myxoid stroma.[2] The spindle-shaped and tubular contingents vary in abundance from case to case, but always express a low nuclear grade.[3] These tumors express both distal nephron markers (EMA, CK19, CK7, E-cadherin) and proximal tube markers (RCC Ma, AMACR and CD15). It is therefore still

* Corresponding author.
E-mail address: rmoez099@gmail.com (M. Rahoui).

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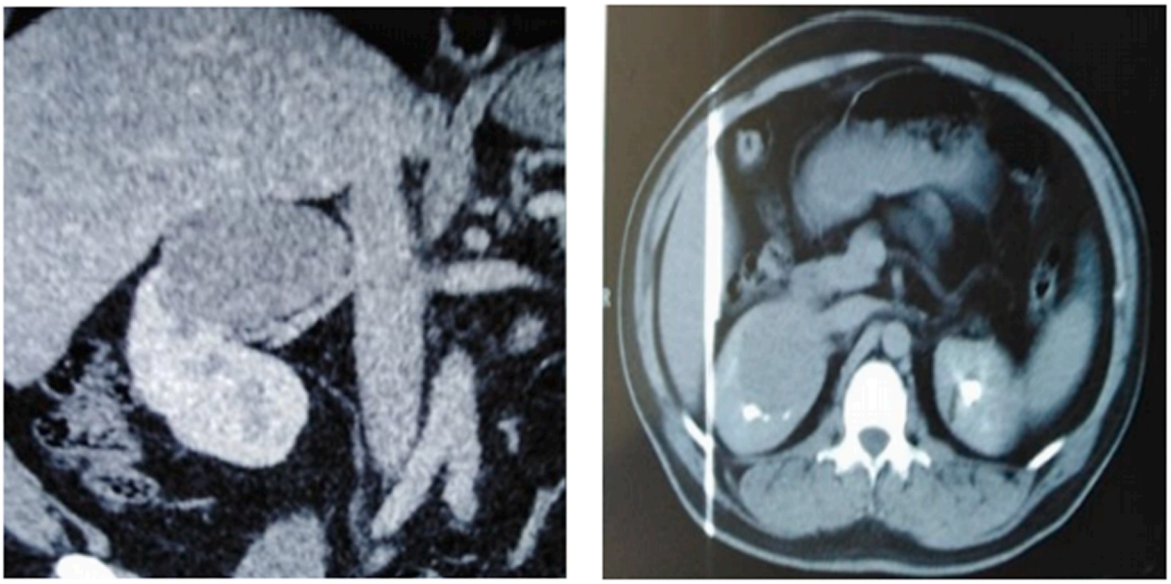

Fig. 1. A,1B: Contrast enhanced abdominal CT scan. It revealed a tumor on the superior pole of the kidney.

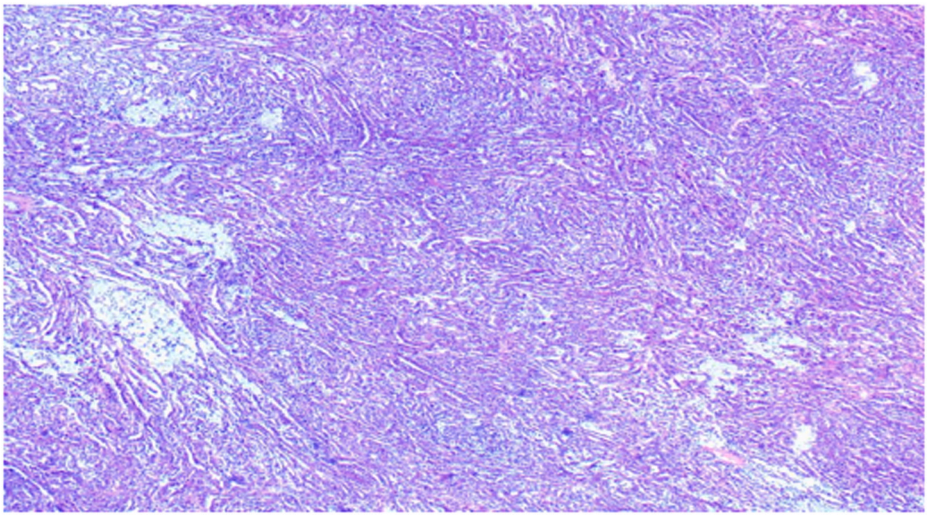

Fig. 2. Carcinomatous proliferation made up of a double tubular and spindle-shaped contingent.

difficult at this time to propose a histogenesis of these tumors. Cytogenetic abnormalities involving a variable number of chromosomes have recently been identified, but a loss of the 3p chromosome-specific to clear cell carcinomas has never been demonstrated[2] Papillary carcinoma of the kidney in its compact variant is considered to be the main differential diagnosis of CTMF because it can show myxoid stroma.[1] This histological and immunohistochemical similarity has led some authors to consider tubulemucinous carcinoma as a variant of type 1 papillary carcinoma.[3] MRI appears to be more effective than CT in suggesting the nature of this histologic pattern. However, since papillary carcinoma is relatively homogeneous, the presence of heterogeneity on CT in a hypovascular system may be suggestive of CTMF, which justifies complement by MRI which is characterized by T2 hyper signal. The regular peripheral delineation and the absence of desmoplastic stroma make it possible to rule out carcinoma of the collecting tubes.[3] Tubular-mucinous carcinoma presents an indolent clinical course, only two cases presented with metastasis.[4] Metastasis usually occurs in tumors characterized by sarcomatoid transformation. Treatment of tubular-mucinous spindle cell carcinoma of the kidney (CTMF) is based on enucleation-resection, partial or total nephrectomy in patients with localized tumors. For metastatic tumors, there is no consensus except one case of metastatic CTMF treated with sunitinib has been documented.[4]

4. Conclusion

Tubular-mucinous and spindle cell carcinoma of the kidney is a rare pathological entity requiring cytogenetic and immunohistochemical

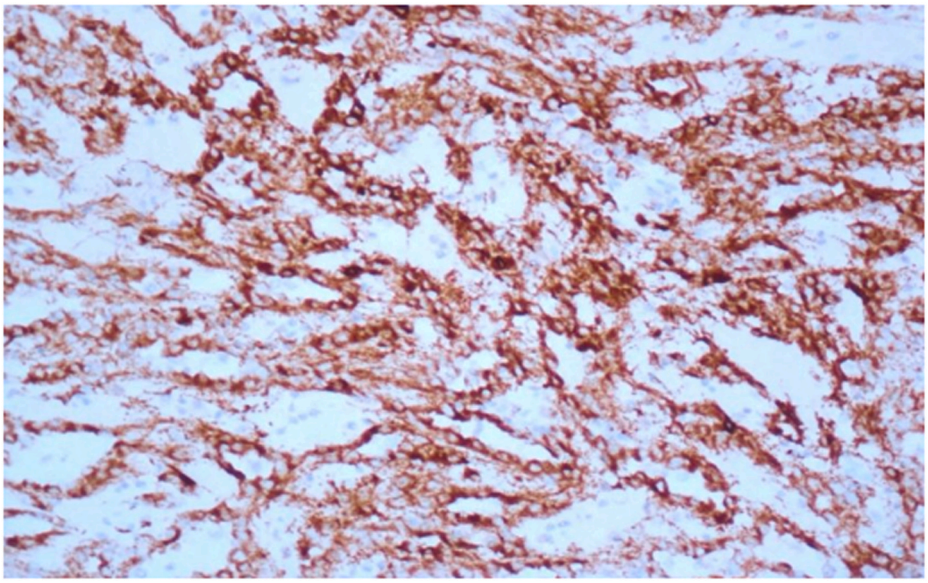

Fig. 3. AMACR expression: IHC x 200 Fig.

studies as well as more clinical experience to better characterize these tumors and clarify their histogenesis.

References

1. Eble JN, Sauter G, Epstein JI, Sesterhenn IA. *The World Health Organization Classification of Tumours of the Urinary System and Male Genital System*. Lyon, France: IARC Press; 2004.
2. Zhao Ming, He Xiang-lei, Xiao-dong Teng. Mucinous tubular and spindle cell renal cell carcinoma: a review of clinicopathologic aspects. Zhao et al. *Diagn Pathol.* 2015; 10:168.
3. Gaafar A, ValentiC EchevarriaC, Laforga JB, Lopez JI. Renal mucinous and tubular spindle cell carcinoma: a clinicopathological study of 4 cases. *Ann Saudi Med.* 2006;26 (6):466–470. NovDec.
4. Larkin J, Fisher R, Pickering L, et al. Metastatic mucinous tubular and spindle cell carcinoma of the kidney responding to sunitinib. *J Clin Oncol.* 2010;28(28), e539, 4.