CASE REPORT

HYBRID RENAL CELL CARCINOMA WITH CLEAR CELLS AND CHROMOFOBE CELLS: A CASE REPORT

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ABSTRACT

Renal cell carcinomas are the most common malignant tumours of the kidney. Most cases of kidney cancer occur in men, which have twice the risk as women, above the age of 55. Cases of clear cell cells and chromofobe(hybrid) cells renal cells carcinomas are a rare histological subtype of renal cell carcinomas. This paper presents a case report of a patient diagnosed and operated with this condition. Due to the stadialization of the disease, no radiotherapy or chemotherapy were perfomed. We highlight the importance of a careful approach of clinicians towards the stage of the diagnosis and the choice of treatment, followed by the aftercare.

INTRODUCTION

Renal cell carcinomas (RCC) are a group of heterogenous cancers that evolve from the renal tubular epithelial cells and encompass 85% of the primary renal neoplasms.

The most common subtypes of RCC are clear cell RCC (ccRCC), papillary RCC and chromophobe RCC (1,2). The first case of chromophobe renal cell carcinoma was described by Thoenes et. al in 1985 (3). This disease is mainly diagnosed in the 6th decade of life and its incidence is similar in men and women (4). More than 80% of the cases are diagnosed in stage 1 or 2 (5).

Hybrid clear cell/chromophobe neoplasms are rarely reported in the litterature, the last report was done by Walbert et. al (6). In this paper, we report a case of hybrid clear cell/chromophobe renal cell carcinoma in a 57 years old patient with no prior history of kidney related disease.

CASE REPORT

F. I., a 57 years old man with no significant clinical history, presented in the emergency room with macroscopic hematuria, unilateral back pain, asthenia, fatigue, loss of apetite and weight loss (3 kilograms in 4 weeks).). The patient had no family history of renal tumors, is a smoker and suffers from obesity. Clinical examination revealed lombar pain and a positive Giordano's test (costovertebral angle tenderness) on the left side. Ultrasound investigations (abdominal ultrasonography), as well as urine tests, CBC (Complete blood count), cholesterol, ALT (alanine aminotransferase), AST (aspartate aminotransferase), creatinine, urea, uric acid tests, CRP (C-reactive protein test) and ESR (erythrocyte sedimentation rate) were ordered. Upon the abdominal ultrasonography a 10-11 cm solid hypoechogenic mass was observed on the upper pole of the left kidney. CBC came with 14.6 $10^3/\mu L$ WBC (white blood cells), with neutrophilia along with mild anemia (HGB 10.4 g/dl, MCV 83 fL, normal thrombocytes).The urine analysis further validated the macroscopic and microscopic hematuria along with elevated creatinin (1.6 mg/dl), elevated urea with normal uric acid levels. Acute phase reactans were markedly increased (ESR and CRP).

An emergency CT (computed tomography) scan was ordered. Upon inspection a heterogenic mass 12/10/8 cm in the upper pole of the left kidney was observed on the scan (Figure 1).

The treatment of choice was radical nephrectomy because the untreated evolution of the disease leads to complications like the growth in volume of the tumor, with the infiltration of the neighboring tissues, with metastases in the regional lymph nodes and with distant metastases in other organs. In addition to the above, the invasion of the renal vein and the appearance of the tumor thrombus in the renal vein or in the inferior vena cava presents the risk of pulmonary thrombembolism with the death of the patient.

A pararectal incision was made by removing the left kidney along with the ureter. At abdominal inspection no evidence of metastases or enlarged lymph nodes was found. On histological examination on the sections collected from the left renal tumor, the appearance of renal cell carcinoma with clear and chromophobic cells, ISUP 3 grading with invasion of renal parenchyma, compression and invasion of renal hilum, with areas of intratumoral hemorrhage were observed.

The postoperative evolution of the patient has progressed normally. The patient was discharged on the ninth postoperative day. Neither radiotherapy or chemotherapy was given to the patient. In the 8th postoperative month, the patient remains in satisfactory health without tumour recurrence or metastasis signs until the time of publishing this article.

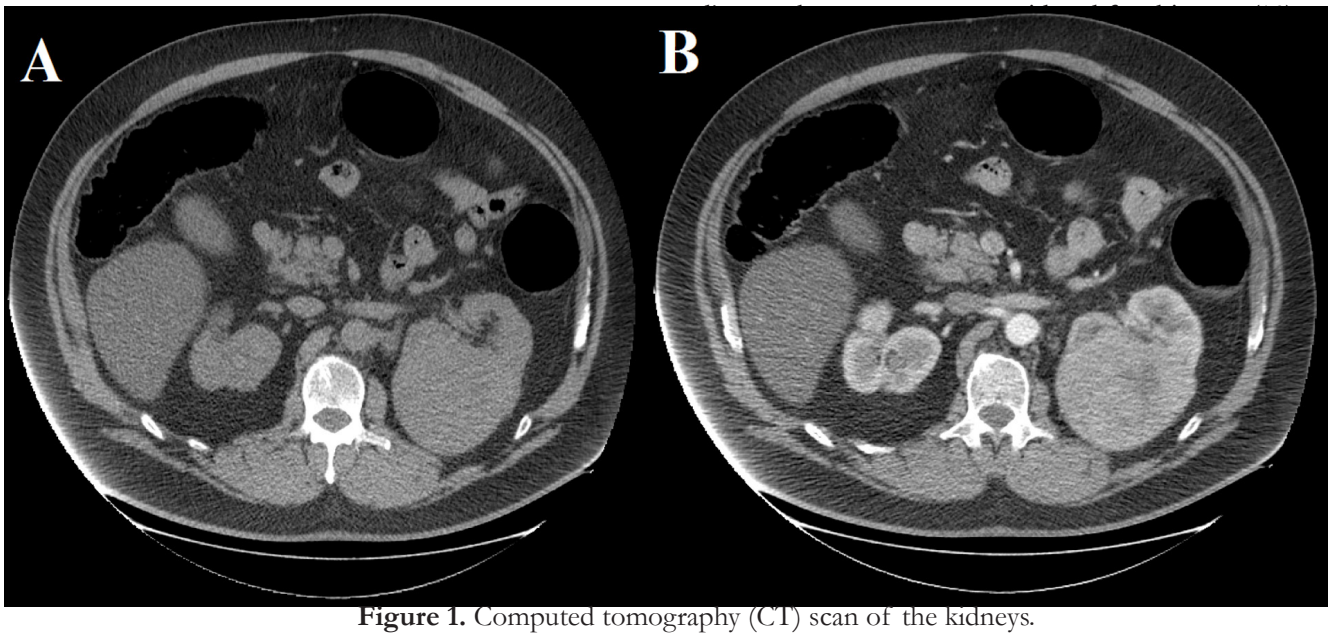

Figure 1. Computed tomography (CT) scan of the kidneys.
(A) A 12/10/8 cm round isodense mass was identified in the upper pole of the left kidney (non-contrast CT).
(B) The mass was heterogeneously enhanced (contrast-enhanced CT).

DISCUSSIONS

The incidence of sporadic hybrid kidney tumors is estimated at around 1% (7). On ultrasonography these type of tumors usually appear hyperechoic lesions with homogenous enhancements, in our particular case the mass observed on the abdominal echography was hypoechogenic making it atypical.The case presented is particularly interesting due to the rarity of this hystological type of cancer (8).

On investigation of the medical literature, we found only a few cases publish that highlight the hybrid renal cell carcinoma. The case is straight forward untill the hystological morphology exam. Upon examination of the 12/10/8 cm renal tumour using HE (hematoxyn-eosynophil stain) clear and chromofobe cells were revealed, Fuhnman grade 3(ISUP 3) that invaded the parenchime with hemorrhagic intratumour areas. Our limitations are both in the diagnosys and in the treatment. When it comes to diagnosys, immunohistochemistry should have been performed. The main immunohistochemical markers used in obtaining a diagnosis of primary RCC are currently PAX2, PAX8, RCC marker, CD10, and a combination of vimentin and CK. Immunohistochemical stains for CA IX, CK7, AMACR and TFE3 form a concise panel that give the ability to distinguish between chromophobe RCC, oncocytome and clear cell RCC (9). Vimentin, CD10 and cytokeratin CK7 are useful acording to most investigators but conflicting results have been reported. Adjuvant therapies like Sutent are only considered in case of recurrent RCC following nephrectomy. Sutent was the first drug approved by the FDA for high risk renal cancer (10). Due to the health state that the patient is and the absence of lymphadenopathy and metastases on the CT,

CONCLUSION

Even with the advance of therapies, RCC remains a challenge and hybrid RCC, due to their rarity, remain a challenge for both urologists and pathologists. The case presented above highlights the importance of interdisciplinary collaborations in order to make an accurate diagnosys. Further studies are needed in order to improve therapy.

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