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KIDNEY CELL CARCINOMA IN A YOUNG PATIENT - A CASE REPORT

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Abstract: Carcinomas are malignant tumors of epithelial cells, with a tendency to invade tissue and may cause metastases. Renal cell carcinomas comprise 1% to 3% of all visceral malignancies and are more prevalent in male patients, with a peak incidence between 50 and 70 years of age. The presence of metastasis at diagnosis affects around 30% of patients, with the main sites being lungs, bones, skin, liver and brain. We report the case of a patient outside the predominant age group, 23 years old, with renal cell carcinoma, who, despite adjuvant treatment, presented bone and pleural metastases immediately after total nephrectomy, with associated neurological symptoms and rapid progression to death, 11 months after diagnosis and treatment outcomes.

INTRODUCTION

Renal cell carcinomas (RCCs) are the seventh most common histological type of cancer in the Western world.[1-14 and]have been showing a sustained upward trend in their prevalence. Nearly half of CRC patients die due to disease progression[3-11], this tumor being the most lethal malignant urological tumor. Generally, most CRCs are found incidentally on imaging studies, whether for urological reasons or not.[12]. The predominance of male sex among patients with CRC is clear, representing two thirds of cases[13.14].

Symptoms include low back or flank pain, hematuria, palpable abdominal mass, paraneoplastic syndromes, and manifestations of metastatic disease such as bone pain, cough, and peripheral lymph node enlargement.[15-18].

The classic triad of flank pain, hematuria and palpable abdominal mass is rare and is correlated with an aggressive neoplastic histopathological type and, more commonly, with advanced disease.[17,19-28]. The most significant prognostic indicator for renal cell carcinoma is histopathological staging.[29-34].

The present report aims to report a case of Renal Cell Carcinoma diagnosed at the `` Hospital Universitário Maria Aparecida Pedrossian``, in the city of Campo Grande, state of Mato Grosso do Sul, Brazil, with the aim of disseminating the experience, also highlighting the importance to increase the efforts of adjuvant and immunobiological therapies to avoid unfavorable and rapidly progressive outcomes such as the one described.

CASE REPORT

Male patient, 23 years old, mixed race, with no known family history (adopted) with reported comorbidity of nephrolithiasis on the right, no use of continuous medication, no previous surgeries and no allergies, was admitted via emergency room with low back pain at the right colic type with irradiation to the sacral region and right lower limb, without factors for improvement or worsening, with 15 days of evolution and worsening for 5 days associated with fever, loss of 10kg in 30 days and decline in general condition.

On physical examination, general condition was regular, lucid and oriented in time and space, eupneic. Respiratory and cardiovascular systems without changes.

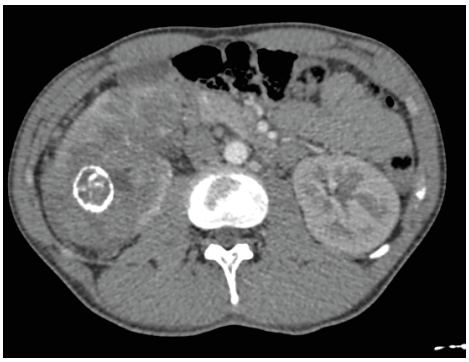
Abdomen flat, flaccid, bowel sounds present, tympanic, painful on palpation of the right flank, no palpable mass, giordano present on the right, blumberg, rovsing, negative psoas sign and sudden decompression.

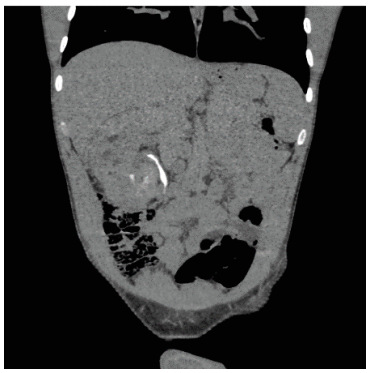
Symmetrical extremities, with preserved strength in all limbs, with good capillary refill. He was admitted to the hospital to undergo further examinations and begin treatment.

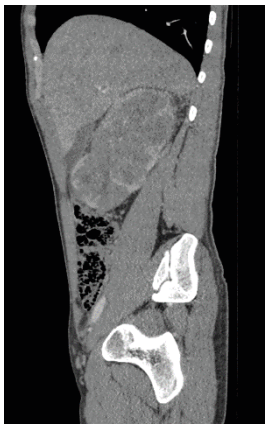
Laboratory tests demonstrated normochromic and normocytic anemia, with increased RDW, elevated CRP (159 - 180), leukometry within normal limits.

Evidenced in the computed tomography of the abdomen and pelvis at the entrance, the

right kidney has increased dimensions due to the formation of an infiltrative neoplastic appearance, asymmetrically affecting the entire parenchyma, exceeding the upper and lower polar lines, predominantly endophytic, measuring 14.3 cm in the largest diameter with iodinated contrast enhancement. There were no lesions suggestive of distant neoplastic implants in other structures in the evaluated images. (Figure 1).







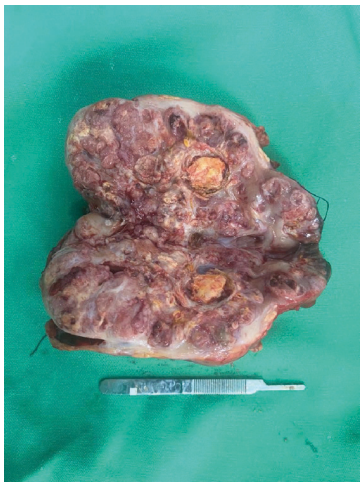
Antibiotic therapy with 3rd generation cephalosporin was started and total right nephrectomy was scheduled.

The procedure was performed four days after hospital admission, and the intraoperative scenario demonstrated an intense inflammatory process, adhesions to adjacent organs and was completed without complications (Figure 2).

He was discharged on the 3rd postoperative day in good general condition, with improvement in laboratory tests and clinical symptoms.

The anatomopathological study describes the product of total nephrectomy with a lesion occupying the entire renal parenchyma and measuring 14.0 x 10.0 x 8.0 cm, weighing 700 grams, with approximately 10% of necrotic tissue, invading the renal pelvis. No infiltration of perirenal adipose tissue is observed. Histology revealed renal cell carcinoma (WHO/ISUP) - 4, without a sarcomatoid component, without a rhabdoid component, with invasion of the renal sinus and ureter. Ureteral and vascular margins free of neoplasia. Undetected blood, lymphatic and perineural invasion.

Pathological staging (AJCC 8th edition)- pT3a.



(Figure 2: Right kidney on a scalpel handle comparison scale.

POST-OPERATIVE EVOLUTION

The patient returns to the urology outpatient clinic on the 16th postoperative day complaining of low back pain, loss of strength in the right lower limb, associated with unmeasured fever.

A new imaging examination was performed which demonstrated a hypoattenuating nodular image in the spine with imprecise contours, without significant enhancement in the post-contrast phase, located in the posterior aspect of the T9 vertebral body, measuring approximately 3.1 x 2.8 x2.7 cm (CCxAPxLL), exerting extrinsic compression on the spinal cord and neuroforamens, with no apparent cleavage plane, suggestive of a neoplastic implant secondary to the underlying disease (Figure 3), and was referred to the emergency orthopedics service.

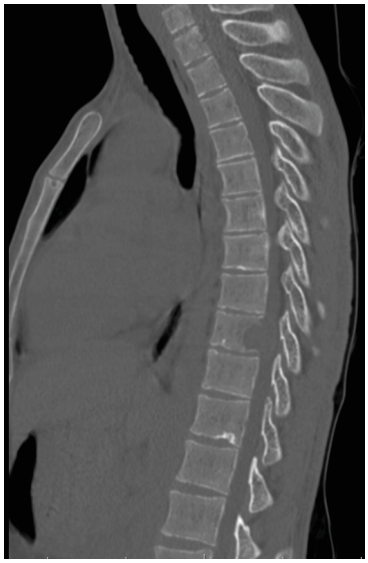


Figure 3

Surgical spinal decompression was performed due to metastasis of T9, corpectomy and pediculectomy of T9, arthrodesis of levels T6 - T11.

Surgical approach is indicated again to reposition the synthesis material. During follow-up, the patient used Pazopanib for 6 months.

During restaging, pleural metastasis was seen in addition to the bone - EC IV (Txn0M1).

He developed paraplegia followed by death 12 months after diagnosis and first surgical approach.

DISCUSSION

Renal cell carcinoma (RCC), also called renal cell cancer or renal cell adenocarcinoma, is the most common type of kidney cancer.[13.35-37]. Unlike our case, CRC is very rare in individuals under 40 years of age and its incidence peaks between the ages of 60 and 70 years.[18.38-40].

Among the histological subtypes of CRC, 70% to 80% are clear cell tumors (CRCC), 10% to 15% are papillary carcinomas, 3% to 5% are CRC of the chromophobe subtype and 1% are carcinomas of collecting duct origin. (Bellini's tumor)[17,17,41-44]. The other cell types are considered very rare, with a prevalence below 1%.

The World Health Organization /ISUP classification system of the World Health Organization and International Society of Urological Pathology (ISUP — International Society of Urological Pathology) for renal cell carcinoma is validated as a prognostic parameter for papillary and renal cell carcinoma. clear, but can be used, for descriptive purposes, for other types of renal cell carcinoma, except chromophobe renal cell carcinoma[45,46,47]. The grade must be assigned based on the single high-power field that shows the greatest degree of nuclear pleomorphism.

The lungs are the most common site of metastases in patients with CRC[16,32,34], which occur in later stages and indicate a worse prognosis. About 35% to 40% of patients with metastatic RCC have bone metastases[18,19,33]. Bone metastasis can cause pain, pathological fracture, spinal cord compression,

hypercalcemia, and other skeletal-related events. Liver metastases are also common in CRC cases and have worse survival outcomes compared to patients with metastases in other organs.

Abdominal computed tomography provides information about the function and morphology of the contralateral kidney, the extent of the primary tumor, venous involvement, the possibility of locoregional lymph node metastases, and the condition of the adrenal glands and other abdominal solid organs.[15,16,28,39,51].

In relation to renal injury, imaging findings generally reflect histopathological characteristics, showing hypervascularized and heterogeneous lesions, due to the presence of necrosis, hemorrhage, cysts and calcifications, which may be signs suggestive of malignancy.[15,16,38-47,51]

Generally, the usual average time seen in this comorbidity for recurrence is one to two years after the surgical procedure.[52.53], but it is possible to observe sporadic relapses after five years. It is necessary to stratify the risk of the case to establish adequate follow-up. The generally recommended follow-up time is 3 to 5 years, with imaging exams (CT or MRI of the abdomen, with or without contrast) being performed more frequently in the first year (every three to six months) and, thereafter, annually for five years[54.56].

When it comes to systemic disease, chemotherapy is generally considered ineffective, as unresectable metastatic RCC is incurable and one of the most chemotherapy-resistant solid tumors.[54].

Angiogenesis-inhibiting drugs, called tyrosine kinase inhibitors (IKT) are considered as the first line of treatment for patients with metastatic CRC. Interferon-α remains only a first-line option in selected patients with metastatic RCC.

Tyrosine kinase inhibitors (TKIs) have shown efficacy in clear cell renal cell carcinoma, with increased disease progression-free time, both as first and second line treatment for this subtype of metastatic RCC.[56.57].

Pazopanib, the drug used in our patient, is a multiple target inhibitor of tyrosine kinases (TKI), vascular endothelial growth factor (VEGF) receptors, platelet-derived growth factor (PDGF) receptors and stem cell factor receptor (c-KIT). In a prospective randomized trial of Pazopanib versus placebo in metastatic RCC, a significant increase in disease progression-free time from 4.2 to 9.2 months and a tumor response was observed in treatment-naïve patients.[54.57].

External radiotherapy can be used to control local symptoms, such as tumor pain and urinary bleeding, and to palliate bone or brain metastases.[57].

CONCLUSION

The present study aims to demonstrate the extremity of renal cell cancer and its rapid progression into unresectable metastatic disease in an extremely young patient. We also present here the main concepts for understanding how to manage a suspected case of renal neoplasia. Since renal cell carcinoma does not necessarily have a pathognomonic sign and symptom, imaging exams are now great allies of the urologist in detecting and staging for correct patient management.

It must be noted that the conclusive diagnosis of these tumors is only possible through pathology, given the radiological similarity between the subtypes.

Finally, we highlight here the need to use imaging to detect abnormalities in the kidneys, as well as monitoring these changes to prevent their progression.

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