Renal cell carcinoma revealed by sternal tumefaction: A rare case report and literature review

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ABSTRACT

Usual location of metastasis are in renal cell carcinoma (RCC) the lung, liver, bone, adrenal and brain. Here we report on an unusual case of a 76-year-old male with a solitary sternal metastasis as an initial presentation of clear-cell RCC.

The management of metastatic kidney cancer has been disrupted over the last decade by the emergence of new treatments and the progress of surgery and ablative techniques. The Carmena study suggests that sunitinib alone is not inferior to the NCR followed by sunitinib, the patient has therefore been transferred to oncology for medical treatment (targeted therapy).

Introduction

Kidney cancer is the third cancer of the device urogenital in order of frequency and represents 3% of solid cancers for adults. At the time of diagnosis, 10–40% of patients with of kidney cancer are metastatic.

Bone metastases is revealed by several signs depending on the location of metastases, but solitary sternal metastasis of RCC is a rare medical condition.

The management of metastatic patients is also personalized and different prognostic groups have been established to better tailor treatment to severity of pathology. Heng et al. identified three groups prognosis from 6 criteria: hemoglobin, calcemia, the delay between diagnosis and the start of treatment, the Karnofsky index (general condition of the patient), the neutrophil count and platelet count.

Patient and observation

A 76-year-old patient, without a personal medical history. was admitted to the emergency for chest pain for 2 months, and his general state deteriorated drastically. On clinical examination, there was a painful hard mass in the upper third of the sternum, without any other symptoms. Blood test revealed a hypocalcemia and anemia. The other paraclinical exams were without particularity namely the electrocardiogram.

The patient was admitted to internal medicine ward for suspicion of myeloma. During the exploration a spinal biopsy was performed, and it came normal.

Contrast-enhanced CT of the abdomen was realized and showed 5 cm bilateral renal tumors, on the right, and a 2cm one on the left.

A pluridiciplinary consultation meeting referred the patient to the oncology center for targeted therapy.

After 18 months of surveillance, the sternal mass disappeared, and no secondary tumor localization was apparent.

Discussion

Kidney cancer is the third cancer of the device urogenital in order of frequency and represents 3% of solid cancers of the adult. During the last 20 years, the incidence of kidney cancer has increased, in part due to the proliferation of imaging tests leading to accidental discoveries of kidney tumors, but probably also because of unknown environmental factors.

Preferential locations metastasis in RCC are the lung, liver, bone, adrenal, and brain. But, solitary bone metastasis is very rare; and was reported in 5% of cases.

Bone metastases are very destructive and responsible for...
Patients with solitary bone metastases had a better survival chance compared to those with multiple metastases. In patients younger than 65 years, there was an absence of pathologic fractures, and tumor-free resection margins predicted higher survival after surgical treatment. But our patient is over 65 years old with comorbidities. After surgical treatment, in some studies, the survival rate was 58.4% at one year and 11.9% at 5 years.

The management of metastatic renal cell carcinoma has been disrupted over the last decade by the emergence of ANTI-VEGF and immunotherapy. These molecules have transformed the prognosis of kidney cancer, with a median survival that went from 11 to 30 months after the arrival of these molecules.

The CARMENA study, a multicenter French study who included 450 randomized patients between nephrectomy plus sunitinib versus sunitinib alone, and overall survival was 18.4 months versus 13.9 months respectively. The Carmena study suggests that sunitinib alone is not inferior to the NCR, followed by sunitinib. our patient is therefore transferred to oncology department for medical treatment (targeted therapy).

Conclusion

In accordance with Carmena study, this clinical case illustrates that targeted therapy is a relevant treatment option in patients of poor general health conditions with a single RCC metastasis in the sternal bone.

Declaration of competing interest

The authors declare they have no relevant interest(s) to disclose.

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Fig. 1. Computed tomography of the chest. A solid mass tumor in the sternum.

Fig. 2. Microphotography showing a carcinomatous proliferation made of clear cells.

Fig. 3. Computed tomography of the abdomen. A solid bilateral tumor.