



Multiple Myeloma and Renal Cancer: Is there an Association?

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Abstract

Several publications have raised the hypothesis of a causal link between renal cancer and multiple myeloma. Nevertheless, this hypothesis remains insufficiently explored because of the limited size of the series. Possible explanations include common genetic abnormalities, environmental exposures, or cancer-induced immune system deregulations that predispose to second malignancy.

We report an original case of stage IIIA kappa light chain myeloma occurring in 55-year-old man operated four years ago for pT2N0M0 clear cell carcinoma of the left kidney.

Keywords: Kidney cancer; Renal cell carcinoma; Multiple myeloma; Hematologic malignancy

Introduction

The association between renal carcinoma and other solid tumors or malignant homeopathies has been noted for several years [1,2]. The one between renal cancer and Multiple Myeloma (MM) is more exceptional and little known [3-5]. It is attracting more and more interest, and some pathogenic hypothesis is mentioned [5,6]. Although the causal link between these two diseases seems to be far from a mere coincidence, exact underlying mechanisms have not been clarified.

We report an original case of MM occurring in a patient operated for renal carcinoma four years before.

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Received Date: 08 Jul 2019

Accepted Date: 28 Jul 2019

Published Date: 01 Aug 2019

Citation:

Bouomrani S, Mesfar R, Guermazi M, Beji M. Multiple Myeloma and Renal Cancer: Is there an Association?. Clin Case Rep Int. 2019; 3: 1113.

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Case Presentation

A 55-year-old man, operated four years ago for pT2N0M0 clear cell carcinoma of the left kidney, was hospitalized for acute and debilitating low back pain. These complaints were two days old, triggered by intense physical exertion, and did not respond to the analgesic treatment prescribed by his family doctor. Cancer recurrence and/or bone metastasis was suspected.

His last clinical, biological, and post-operative radiological check-up (kidney CT and bone scintigraphy) done two years ago was strictly healthy. Investigation concluded to stage IIIA kappa light chain myeloma: Normocytic anemia at 8.4 g/dl, leucopenia at 3800/mm³, hypercalcemia at 2.78 mmol/l, erythrocyte sedimentation rate at 122 mm/H1, creatinine at 99 μmol/l, multiple lytic lesions of dorsal and lumbar vertebrae and iliac bones at standard X-ray, CT-scan, and MRI (Figure 1 and 2), total proteins at 138 g/l, Bence-Jones proteinuria, monoclonal gammopathy type light chain kappa at electrophoresis of serum and urinary proteins, and medullary infiltration by 25% of dystrophic plasma cells on the myelogram. Renal ultrasound and CT were normal.

The patient was treated with anti-myelomatous polychemotherapy (induction by 4 cycles of CTD (1 cycle every 28 days): Cyclophosphamide (500 mg at d1, d8, and d15)-Thalidomide (100 mg/d)-Dexamethasone (20 mg at d1, d8, d15, and d22), bisphosphonates, and bone marrow transplantation with favorable outcome.

Discussion

Several publications have raised the hypothesis of a causal link between renal cancer and MM [2-6]. Nevertheless, this hypothesis remains insufficiently explored because of the limited size of the series [7,8]. The analyzes reveal a bidirectional relationship between these two neoplasias that are

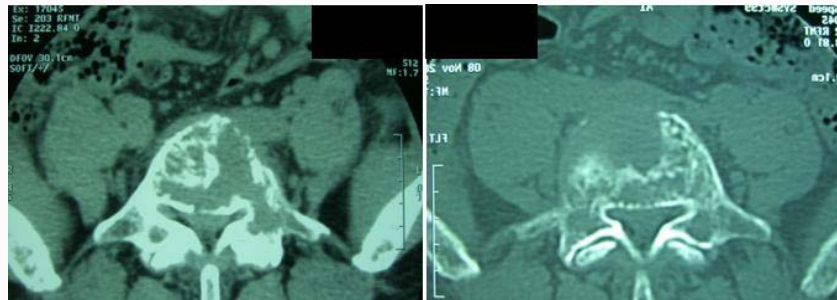


Figure 1: Lumbar axial CT without contrast injection: Lytic Lesions of the L5 vertebral body.

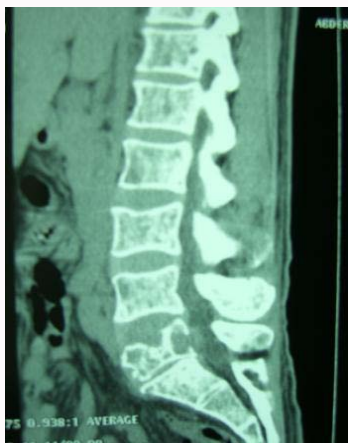


Figure 2: Lumbar CT without contrast injection in sagittal reconstruction: Lytic Lesions of the L5 vertebral body.

influenced by common risk factors [2,9]; Interleukin 6 is at the center of this pathophysiology [10,11].

The association between kidney cancer and MM seems to be significant and far from a mere coincidence [12]. Possible explanations include common genetic abnormalities, environmental exposures, or cancer-induced immune system deregulations that predispose to second malignancy [7,8,10-12]. The occurrence in the same patients of several cancers at the same time (breast cancer, renal cancer, and multiple myeloma) comforts the hypothesis of a common predisposing factor [2].

Multiple myelomas were reported in association with all histological types of kidney cancers [7]: Hypernephroma cancer [6], clear cell renal carcinoma [8,13], and even renal lymphoma [14].

The chronology of this association is variable [3,7,9], and the simultaneous occurrence of these two neoplasias is also possible [4,5,11,14].

Screening for MM is indicated in patients treated for renal carcinoma who have lytic bone lesions evoking metastases. Similarly, a renal mass in a patient followed for MM is not necessarily a plasmacytoma, and must make suspect an associated renal cancer. In both cases, the biopsy is required [3,6,9].

Conclusion

As rare as it is, this possible association of two malignancies deserves to be known by all health professionals to avoid diagnostic delays and improve the prognosis that can be fatal.

The diagnosis of MM may be included in the spectrum of second malignant tumor in patients with renal carcinoma and vice versa.

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