

## Oncology

# A first spinal metastasis manifestation of a renal cell carcinoma: A case report and review of the literature

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## Introduction

Intramedullary metastases are a rare entity which represent only 4–8.5% of central nervous system (CNS) metastases. An important feature of these intramedullary metastases is the rapid progression of their neurological deficits which requires prompt treatments. There are few cases of intramedullary metastasis due to renal cell carcinoma and also few cases of patients in whom symptoms from the metastasis of a renal cell carcinoma preceded the detection of the primary tumor.

## Case report

A 62-year-old woman complained of pain in the right limb radiating into the right leg, together with numbness in the fourth and fifth right toes. Neurological examination revealed a lumbar spinal syndrome without motor deficit. Magnetic resonance (MR) imaging demonstrated a solitary intramedullary osteolytic lesion at L5 level (Fig. 1). The CT scan of the abdomen revealed a tumor with a diameter of 8 cm in the left kidney (Fig. 2). Microscopic examination of the CT scan guided biopsy of the lesion concludes for a renal cell carcinoma Fuhrman grade II. The patient was treated with radiotherapy and chemotherapy.

## Discussion

Metastatic intramedullary spinal cord is rare and clinically affects only 0.1%–0.4% of all cancer patients.<sup>1</sup> The most commonly described tumors in association with metastatic intramedullary spinal cord include lung cancer and breast cancer; on the other hand, RCC has been described to constitute about 4%–9% of the total number of metastatic

intramedullary spinal cord.<sup>2</sup> For the rarity of metastatic intramedullary, as well as the low incidence of itself, only a few cases of metastatic intramedullary spinal cord originated from RCC have been reported. Treatment modalities include radiotherapy, surgery, and chemotherapy. The modality of treatment should be decided by clinical and neurological status. Focal radiotherapy has been accepted for an effective treatment modality for lesion with arresting tumor growth and preventing further neurological deficit.<sup>3</sup> However, the efficacy of radiotherapy may be limited to radio-sensitive tumors, such as small cell lung cancer, breast cancer, and lymphoma. These radio-sensitive tumors are most frequently found as the origin of metastatic intramedullary spinal cord.<sup>3</sup> Previous reports favoring radiation therapy are somewhat biased as their clinical elements mainly consist of these radio-sensitive tumors. Despite the radio-resistance of RCC itself, focal radiotherapy has been preferred for the first-line treatment modality of metastatic intramedullary spinal cord from RCC due to the absence of effective systemic therapy for metastatic RCC and short life expectancy which estimated at 3–9 months.<sup>4</sup> However, in selected cases with solitary lesion and rapidly progressing neurological deficits but incomplete, surgical management can be an effective salvage procedure.

## Conclusion

Although metastatic neoplasms of the spine are common, pure intramedullary spinal cord metastasis is a rare manifestation of systemic cancer, which indicates the occurrence of remote dissemination, and thus, the terminal phase of cancer.

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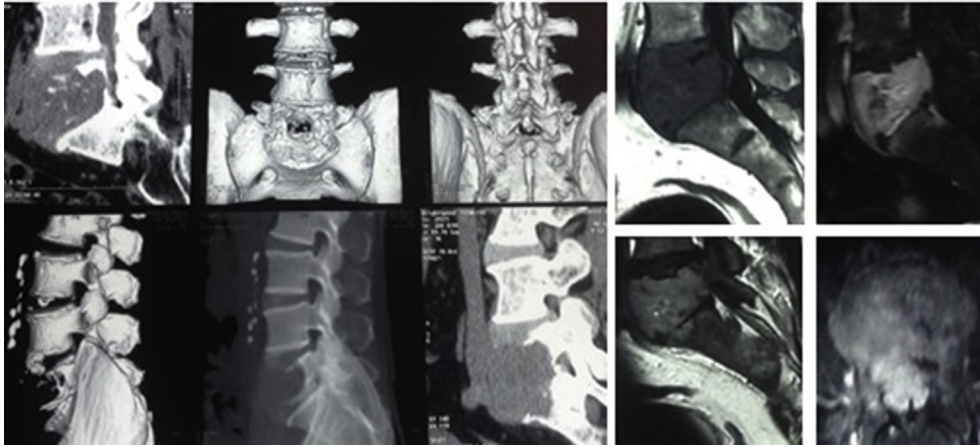


Fig. 1. Lumbar CT and Magnetic resonance imaging demonstrated a solitary intramedullary osteolytic lesion at L5 level.

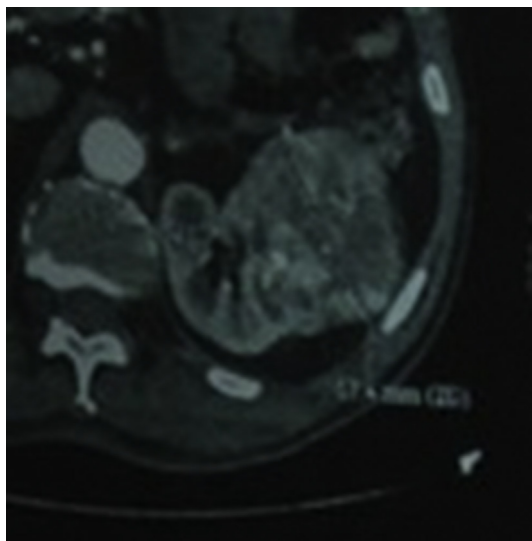


Fig. 2. Abdominal CT revealed a left renal cell carcinoma.

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### Conflicts of interest

The authors declare that there are no conflicts of interest regarding