

## The incidental intrameningioma metastatic renal cells: first step in the diagnosis of systemic cancer

Hallazgo incidental de células metastásicas renales dentro de un meningioma: primer paso en el diagnóstico de un cáncer sistémico

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### Abstract

Renal carcinoma metastasis to meningioma is a rare phenomenon. Four cases have been described in the literature. We report a 74 year-old woman with progressive headache and right hemiparesia. Brain CT and MRI suggested a meningioma. The tumour was resected and the histological study confirmed intrameningioma metastatic renal clear cells. These findings permit us the diagnosis of the primary renal carcinoma and the posterior treatment of the primary tumour.

**Key words:** Meningioma, renal carcinoma, metastasis, tumour to tumour.

**Key Messages:** Systematic histological study of the tumour specimen can provide us the diagnosis of the lesion and contribute to extend our work up in the finding of other associated comorbidities.

### Introduction

The phenomenon of true tumour to tumour metastasis has to complaint basic criteria proposed by Campbell: the metastasis focus must at least be partially enclosed by a rim of histological distinct host tissue and the existence of metastasizing primary carcinoma must be proven and compatible with the metastasis<sup>1</sup>.

In nervous system, meningioma is the most common intracranial host tumour. Breast and lung being the most common primary sites, but true renal metastasis to meningioma is a very rare phenomenon<sup>3</sup>.

### Case report

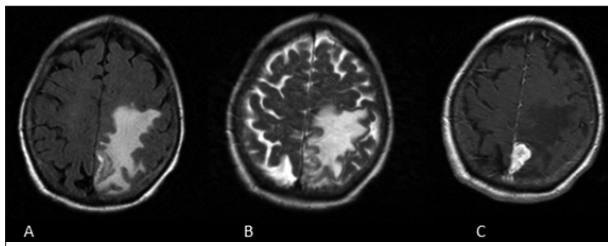
We report a 74 year-old woman with history of progressive headache and right hemiparesia. Brain CT and RMI revealed extraxial lesion, located in the left frontoparietal zone, parasagittal to the longitudinal sinus, isointense on T1-weighted with heterogeneous gadolinium enhanced. (Figure 1).

The tumour was resected completely. The intraoperative smear was informed to meningioma. The surgical specimen stained with hematoxilin & eosin. Microscopically, we observed two types of cells. The biggest population of cells was organized in whirls and surround-

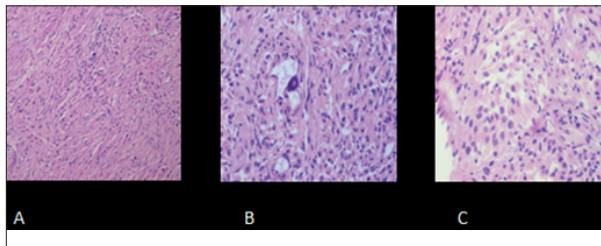
ing other type of cells arranged in acinar structures (Figure 2).

Immunohistochemistry stain was performed on paraffin embedded tissue sections using specific antibodies against, epithelial membrane antigen (EMA), vimentina, pancytokeratin (clone AE1/AE3), CD10 and Ki-67 (clone MIB1) (Figure 3).

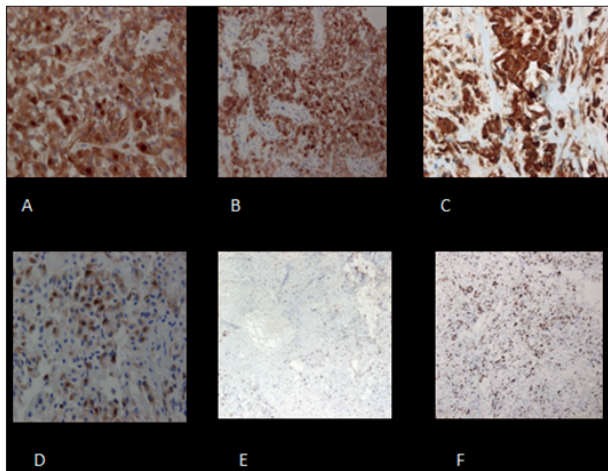
The study was compatible with metastasis of clear renal cells to meningioma. The body TC confirmed a solid mass in the left kidney and no showed other metastasis. The tumour was resected and the histological study confirmed the diagnosis. The patient received quemo-therapy and radiotherapy. (Figure 4).



**Figure 1.** Brain MRI (A) axial FLAIR, (B) axial T2-weighted and (C) axial gadolinium-enhanced T1-weighted sequences showed lesion attached to falx with important swelling. The lesion suggested a meningioma.



**Figure 2.** H&E stained of tissue showed (A) x100 two population of cells. (B) x 200 Small polygonal cells surrounding (C) x 200 large polyhedral cells with clear cytoplasm. The biggest population of cells suggested a meningioma and the small population clear renal cells.



**Figure 3.** Immunohistochemical study showed that both populations of cells were (A) EMA (+) and (B) vimentina (+). The large cells were (C) pancytokeratin (+) and (D) CD10 (+). MIB 1 showed two different patterns, the small cells were (E) low MIB 1 and the large cells were (F) high MIB 1.



**Figure 4.** Abdominal CT study showed a solid mass in the left kidney.

**Discussion**

The phenomenon of true tumour to tumour metastasis has to complaint basic criteria proposed by Campbell: the metastasis focus must at least be partially enclosed by a rim of histological distinct host tissue. And the existence of metas-

tasizing primary carcinoma must be proven and compatible with the metastasis<sup>1</sup>. In nervous system, meningioma is the most common intracranial host tumour. Breast and lung being the most common primary sites, but true renal metastasis to meningioma is a very rare phenomenon<sup>4</sup>. Four cases have been described in the

literature<sup>2-5</sup> and just one was discovered before the primary tumour<sup>2</sup>.

In our case the finding of intrameningioma renal cells permit us the diagnosis of the renal carcinoma and the posterior treatment.

This paper emphasizes the importance of systematic study of the surgical specimen in the diagnosis of the tumour, as well as the need for a significant sample of the lesion.

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