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Kidney metastasis in a case of Merkel cell carcinoma

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ABSTRACT

Merkel cell carcinoma is a rare neuroendocrine skin tumor with a poor prognosis. Metastasis is frequent and is seen in the first few years after diagnosis. This report describes a case of renal metastasis from Merkel cell carcinoma which is an unusual clinical presentation.

Introduction

Primary cutaneous neuroendocrine carcinoma or Merkel cell carcinoma (MCC) is a rare and very aggressive neoplasm.[1,2] Metastasis is frequent and is often localized in the lymph nodes, lungs, liver, and bones.[3] This paper aims to report a rare case of Merkel cell carcinoma with renal metastasis in a 49-year-old man.

Case report

A 49-year-old male patient was initially admitted for an asymptomatic subcutaneous nodule on the left buttock on whom a resection had been performed six months ago in the Dermatological Unit (Fig. 1). There was no adjuvant radiotherapy after the cutaneous resection.

The immunohistochemistry test showed positive of neuroendocrine markers, such as CK 20, chromogranine A, synaptophysine, and negative of PS 100 and CK7 (Fig. 2). It was therefore diagnosed as a Merkel cell carcinoma.

The patient was referred to our Urological unit for pain in the left lumbar fossa, progressing for 2 months, with deterioration of the general condition and an estimated weight loss of 8 kg. A thoracic abdominopelvic scan showed a tumor in the mid part of the left kidney cortex measuring 55 × 65 mm at the long axis, with endo and exo renal development, and rupture of the external cortex, contrasting heterogeneously, with magma of lymphadenopathy in the left lumbo-aortic region (Fig. 3).

An enlarged total left nephrectomy was performed. The nephrectomy piece presents a tumor proliferation measuring 7 × 7.5 cm at the cut; which is fleshy and infiltrates the renal hilum. The histopathological study revealed a renal tumor proliferation arranged in neuroendocrine clusters made of cells with scarce cytoplasm, the tumor stroma is fibro-congestive with the presence of juxta-tumoral carcinomatous emboli. Given the antecedent of the MCC, it was decided to complete with an immunohistochemical study. It was positive for CK 20 and negative for PS100. The expression of CK 20 showed the lesion to be metastatic MCC. The diagnosis retained is a renal metastasis of the Merkel cell cutaneous carcinoma.

The patient was referred to the oncology center, and he was lost for follow up.

Discussion

Merkel cell carcinoma, described for the first time in 1972 by Toker, is a rare and very aggressive skin tumor.[1,2] Local and regional metastases from this tumor are very common[2] and typically observed within the first 3 years after diagnosis.[1] In our case, the renal lesion was diagnosed 6 months after the diagnosis of the skin tumor.

MCC mainly affects the white population and is often diagnosed in the elderly, nevertheless, cases have been reported in children; the youngest was 7 years old.[2]

Recurrences are frequent and the mortality rate is high.[1] After melanoma, MCC is the second leading cause of death from skin cancer with disease-associated mortality estimated to be between 33% and 46%.[1] The factors reported worsening the prognosis of MCC are Male sex, advanced age, immunosuppression, and vitamin D deficiency.[1]

The MCC nodule is frequently located on the photo exposed areas, red-violet in the color, firm, and painless.[1]

The diagnosis of MCC is based on histological and especially

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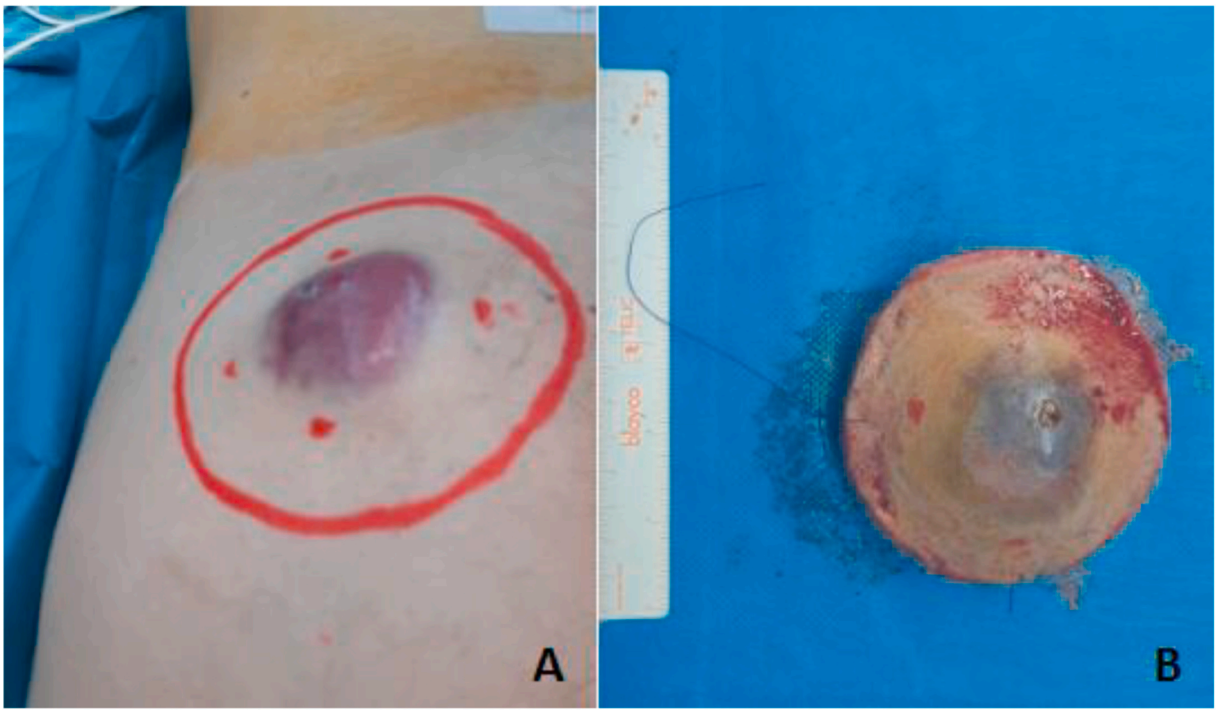

Fig. 1. Skin lesion before (A) and after (B) resection.

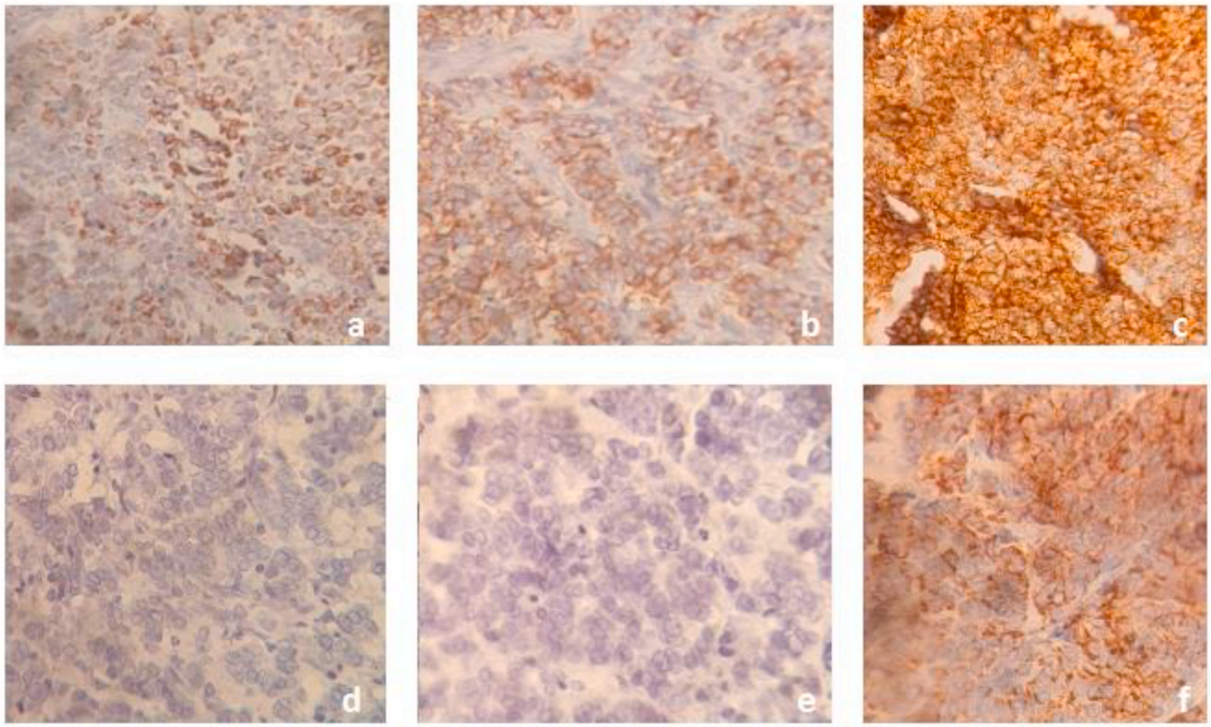

Fig. 2. The immunohistochemistry (IHC) test of the skin lesion showed positive of CK 20 (a), chromogranine A (b), synaptophysine (c), and negative of PS 100 (d) and CK7 (e). The immunohistochemistry (IHC) test of the renal tumor showed positive of CK 20 (f).

immunohistochemical characteristics. Histologically, MMC is composed of round, basophilic, monomorphic cells with large vesicular nuclei and condensed and finely granular chromatin2. Necrotic areas and an abundance of mitotic figures are often found.[2] It is also common to see a vascular invasion and an abundant inflammatory infiltrate of lymphocytes and plasma cells around tumor lesions.[2] The risk of diagnostic error when using light microscopy alone has been reported to be 66%.[2]

As a neuroendocrine tumor, MCC expresses endocrine markers and CK markers facilitating diagnosis by immunohistochemistry.[2] Immunohistochemical tests show the expression of CK20 and neuroendocrine markers such as chromogranin, synaptophysin, or CD56, and absence of expression of the protein S-100 and CK7.[2]

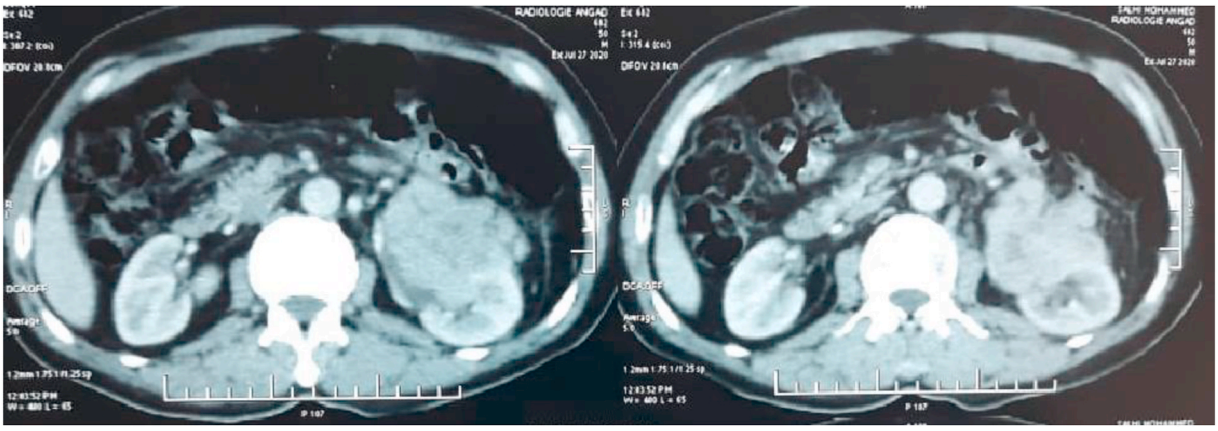

Fig. 3. Axial contrast enhanced CT image through the abdomen shows left renal mass which is contrasting heterogeneously.

Metastases are frequent and are often localized in the lungs, liver, and bones.[3] The bladder and prostate are described in the literature as unusual sites of distant metastasis of MCC.[4] In our case, the patient presented a renal metastasis 6 months after the diagnosis of MCC, discovered on a thoracic-abdominopelvic CT scan performed in front of the pain in the left lumbar fossa. The correct diagnosis of renal metastasis of the MCC was established by CK20 labeling of the tumor cells.

Surgery is considered the primary therapeutic option for primary locoregional MCC.[1] Regardless of the size of the tumor, wide resection is recommended with safety margins of 1–2 cm of clinically free skin5, and a new excision must be carried out when the safety margins are not healthy in the pathological study.[5]

Radiotherapy can be used as an adjuvant to surgical treatment, or as a palliative treatment for patients with inoperable MCC.[1] Adjuvant RT has been shown to reduce the likelihood of recurrence compared to surgery alone, as well, adjuvant RT has also been associated with better outcomes compared to adjuvant chemotherapy.[1] Single fraction radiotherapy has been used in cases of metastatic MCC, it can reduce the tumor burden and provide long-lasting palliation.[1]

Chemotherapy can not occur a durable response, and recurrences develop within 4–15 months of chemotherapy.[1] It is reserved for the treatment of metastatic MCC,[5] and it is often associated with initial tumor regression, but the overall survival time is less than 10 months and patients show remarkable toxicity.[1]

Adjuvant chemotherapy has shown no clear benefit, which is why it is not recommended in clinical guidelines.[5]

Conclusion

The MCC is an aggressive skin tumor of the elderly. It is the second cause of mortality linked to cutaneous cancer. This neoplasm can spread to other areas of the body, however, MCC metastasis to the kidney has rarely been reported.

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