Interesting images

Role of nuclear medicine in staging and management in a case of Merkel cell carcinoma

Papel de la medicina nuclear en la estadificación y manejo en un caso de carcinoma de células de Merkel

M.A. Ochoa-Figueroa\textsuperscript{a,\textdagger}, J. Uña-Gorospe\textsuperscript{b}, A. Allende-Riera\textsuperscript{b}, J. Muñoz-Iglesias\textsuperscript{b}, C. Cárdenas-Negro\textsuperscript{b}, B. González-Delgado\textsuperscript{c}

\textsuperscript{a} Servicio de Medicina Nuclear, Hospital Universitario Insular de Gran Canaria, Las Palmas de Gran Canaria, Spain
\textsuperscript{b} Servicio de Medicina Nuclear, Hospital Universitario de Nuestra Señora de La Candelaria, Santa Cruz de Tenerife, Spain
\textsuperscript{c} Servicio de Cirugía Plástica, Hospital Universitario de Nuestra Señora de La Candelaria, Santa Cruz de Tenerife, Spain

\textsuperscript{\textdagger} Corresponding author.
E-mail address: miguela@hotmail.com (M.A. Ochoa-Figueroa).

Merkel cell carcinoma (MCC) is a rare, aggressive, cutaneous neuroendocrine neoplasm, the presentation of which varies. Histologically it is a dermic lesion. Differentiation of the cells is difficult to distinguish from cutaneous metastases of neuroendocrine carcinomas, melanoma and angiosarcoma. The immunohistochemical profile of MCC and its ultrastructural characteristics help to differentiate this carcinoma from other neoplasms. The pathogenesis of MCC is uncertain. Despite having been associated with different chromosomal abnormalities and apoptotic mechanisms, solar exposure and immunosuppression have been included among the causes of this disease.\textsuperscript{1} Compared to other imaging techniques, $^{18}$F-FDG PET is a good diagnostic tool for the staging of patients with MCC mainly because a whole body image may be obtained with only one scan. However, a negative PET does not exclude the absence of disease.\textsuperscript{1,2} On the other hand, it seems that the use of selective biopsy of the sentinel lymph node (SLN) in these patients has great potential applicability. Nonetheless, few cases using this technique have been described in the literature.\textsuperscript{3}

A 71-year-old woman with cutaneous lesions suspected of MCC in the left buttock (Fig. 1) was referred for study. Taking into account that the tumor is predisposed to lymph node and hematogenous dissemination, whole body $^{18}$F-FDG PET-CT was considered to be the best strategy to rule out disseminated disease which contraindicates determined therapeutic approaches. If negative, surgery would be performed with extraction of the SLN. The $^{18}$F-FDG PET-CT study only demonstrated the presence of a primary lesion in the left buttock with a low metabolic rate and no distant tumoral involvement (Fig. 2A). Tumor resection was carried out with biopsy of the SLN in the left inguinal region. The technique used was the injection of 4 subcutaneous perilesional injections of $^{99m}$Tc-Nanocol\textsuperscript{©} (Fig. 3). Histopathological analysis showed MCC of the lesion as well as macrometastasis of MCC in the two lymph nodes removed. At 13 and 17 months (Fig. 2B) the asymptomatic patient underwent a control $^{18}$F-FDG PET-CT study demonstrating persistent absence of tumoral lesions.

We present the case of a patient with MCC who underwent a scintigraphic study for the localization of the SLN and studies with $^{18}$F-FDG PET-CT for the initial staging and follow-up. The sequence and evolution demonstrate that both the PET-CT study with $^{18}$F-FDG and the localization of the SLN are techniques which may aid in the initial staging of patients with MCC and contribute to better


\textsuperscript{\textdagger} Corresponding author.
E-mail address: miguela@hotmail.com (M.A. Ochoa-Figueroa).
Fig. 2. Maximum intensity projection (MIP) PET and coronal fusion PET-CT slices. (A) Primary lesion in the left buttock with a low rate of metabolism (arrow), with no other lesion suggestive of distant macroscopic tumoral involvement with avidity by the FDG. (B) Control at 17 months showing an absence of lesions suggestive of recurrence as well as the absence of the primary lesion in the left buttock.

Fig. 3. Fusion images of the sentinel lymph node in axial, sagittal and coronal slices. The site of the perilesional injections in the left buttock is shown, observing their drainage to the left inguinal zone.
patient management by differentiating patients with local disease from those with disseminated disease.

References

