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Incidental Finding of Neuroendocrine Tumor in Extension Study With 18f-Fdg Pet-Tc of Choroidal Melanoma

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1. Abstract

We present the case of a patient who came to our Nuclear Medicine department for a 18F-FDG PET-CT scan after recent diagnosis of coroidal melanoma. Incidentally, we detected a mesenteric lesion that did not show FDG avidity but was highly suspicious for a second neoplasm. A second PET-CT study with 68Ga-DOTATOC allows us to refine the diagnosis and after surgery the findings are confirmed. With this case we intend to highlight the relevance of detecting relevant findings in PET-CT studies, especially in the CT component although they show scarce FDG uptake, which condition important changes in the management of oncologic patients.

2. Case

A 69-year-old woman refered to our center for a PET-CT study with 18F-FDG for staging of choroidal melanoma. The PET-CT did not show clear lesions or pathologic FDG uptake in the eyeball, nor apparent signs of dissemination of the disease.

However, CT images show a mesenteric adenopathic conglomerate with spiculated borders and associated calcifications showing low FDG uptake. The characteristics of the lesion suggest that it could correspond to carcinoid tumor metastasis. The lesion contacts with a small bowel (ileum) where there seems to be an enhancement zone with discrete FDG uptake that could correspond to the primary lesion.

In a multidisciplinary clinical session it was decided to perform PET-CT 68Ga-DOTATOC for better characterization. The adenopathic conglomerate shows intense avidity for the radiotracer. Adjacent to it, at least 3 foci of uptake are identified in ileum that seem to coincide with areas of enhancement. These findings suggest a carcinoid-type tumor of a loop of ileum with locoregional lymph node involvement showing all these findings intense avidity for 68Ga-DOTATOC and therefore overexpression of somatostatin receptors.

Tumor markers revealed levels of neurospecific Enolase 19 ng/ml and Chromogranin A 1561 ng/ml. Surgery was scheduled and laparoscopic small bowel resection was performed. Given the impossibility of resection of the conglomerate, given its extension, resection of about 20cm of small intestine was performed including both lesions suggestive of neoplasia. The histopathological study revealed two foci of well-differentiated neuroendocrine tumor (G2 and G1, respectively) and a lymph node with metastasis (1/3). Pathologic stage (pTNM, AJCC 8th edition): pT4(m) pN1 (Ki 67 4%).

Subsequently evaluated in committee, resection of the residual lesion was discouraged due to its location and vascular relations and treatment with Lanreotide Lar and Somatuline was initiated.

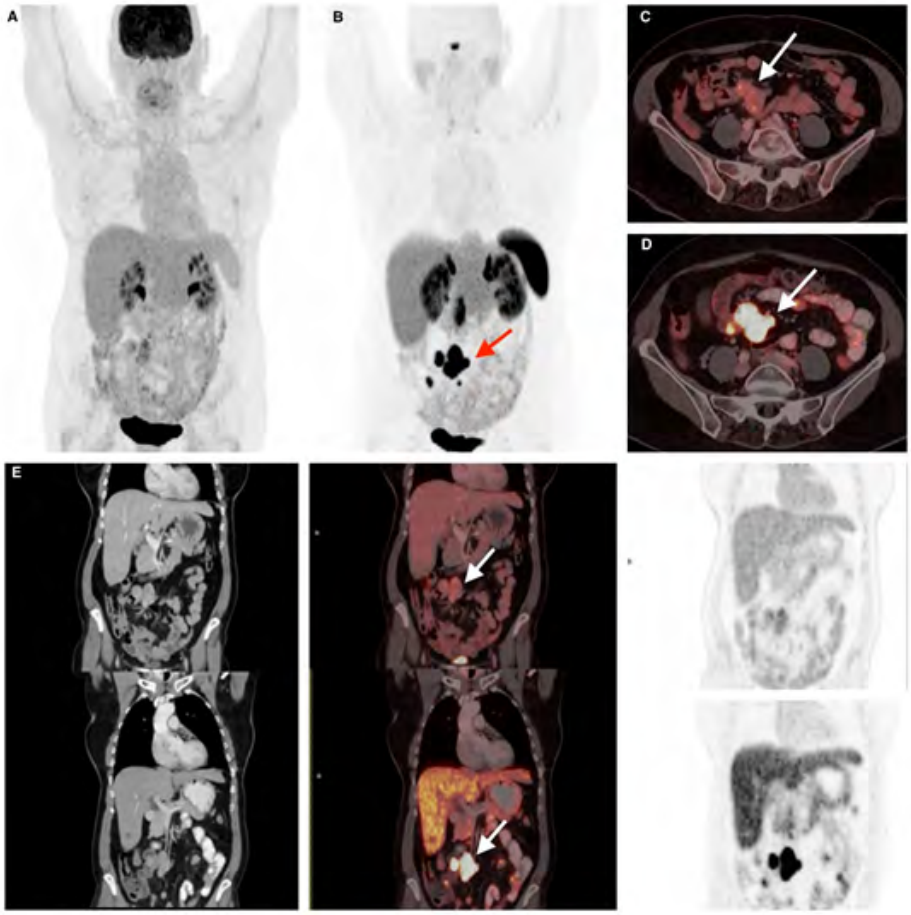

Figure 1: A: MIP (Maxium Intensity Projection) 18F-FDG PET-CT view. B: MIP 68Ga-DOTATOC PET-CT view showing multiple radiotracer deposits in the abdominopelvic region (red arrow). C: Axial slice of the 18F-FDG PET fusion image revealing a 3.8 cm mesenteric adenopathic conglomerate in right iliac fossa (white arrow) with spiculated borders and associated calcifications with low FDG uptake (Standardized Uptake Value max 5.5). D: Axial slice of the 68Ga-DOTATOC PET fusion image showing that the conglomerate (white arrow) shows intense avidity for this radiotracer. E: Coronal slices (upper row 18F-FDG scan and lower row 68Ga-DOTATOC study) showing the conglomerate (white arrow) and in the 68Ga-DOTATOC image at least 3 deposits adjacent to the mass located in ileum corresponding with areas of enhancement.

3. Discussion

With this case we pretend to highlight the importance of paying special attention to CT images in view of the possibility of detecting incidental findings [1] even if they show scarce radiotracer uptake since they can substantially modify the management of patients as we show here. The introduction of 68Ga-DOTATOC PET-CT [2,3] has substantially improved the management of this type of tumors allowing correct staging and therefore more accurate treatment of these patients.

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