An Unusual Case of Extramedullary Plasmacytoma of the Hypopharynx Detected by ^{18}F -FDG PET/CT

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A 69-year-old female patient underwent surgical excision of a 1.5-cm polyp located in the soft palate and subsequent histology demonstrated the presence of an extramedullary plasmacytoma (EMP). Bone marrow biopsy was negative for neoplastic involvement of the bone marrow. Nevertheless, the patient underwent fluorine-18-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F -FDG PET/CT) to complete the staging.

PET images were acquired about 1 h after the intravenous injection of 260 MBq of ^{18}F -FDG according to the body mass index. The patient had fasted for at least 6 h before the radiopharmaceutical injection, and glucose blood levels corresponded to 92 mg/dl. Unenhanced CT scan was performed with a voltage of 120 KeV and tube current of 30 mA from the skull base to the inguinal region.

^{18}F -FDG PET/CT showed a focal area of increased uptake corresponding to a 1 cm nodule in the right

hypopharyngeal wall (Fig. 1a–c). No other areas of increased ^{18}F -FDG uptake were detected in the rest of the body. Based on this PET/CT finding, the patient underwent excisional biopsy, and histological examination of the hypopharyngeal nodule demonstrated the presence of an EMP (Fig. 1d–e). The patient was addressed to follow-up because of the complete surgical excision of the neoplasm.

EMP is a rare plasma cell tumor. The majority (80 %) of the EMPs occur in the head and neck, especially in the nasopharynx and paranasal sinuses [1]. On initial presentation, these tumors must be differentiated from multiple myeloma (MM). This can be difficult because a high percentage of EMPs may be associated with subsequent development of MM. EMPs that are not progression of MM are usually indolent. In contrast, EMPs that are spread of MM are associated with a poor prognosis [2].

A previous case report described the usefulness of ^{18}F -FDG PET/CT in detecting an EMP located in the soft

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Fig. 1 Whole-body maximum intensity projection ^{18}F -FDG-PET image (a) showed a focal area of increased uptake in the neck region (red arrow), located below the functional uptake of the floor of the mouth (blue arrow), and corresponding to a 1 cm nodule in the right hypopharyngeal wall, as demonstrated by axial CT (b) and fused PET/CT (c) images (red arrows). The maximum standardized uptake value of this hypopharyngeal nodule was 3.1. No other areas of increased ^{18}F -FDG uptake were detected in the rest of the body. Biopsy of the hypopharyngeal nodule

was performed, and hematoxylin and eosin staining (d: magnification 40 $\times$) showed the presence of a solid plasma cell neoplasm with moderate nuclear atypia and occasional Dutcher bodies. At immunohistochemistry neoplastic cells showed expression of CD38 (e: magnification 40 $\times$). The final histological diagnosis was extramedullary plasmacytoma of the hypopharynx, and the patient was addressed to follow-up because of the complete surgical excision of the neoplasm

palate [3]. In our case, ^{18}F -FDG-PET/CT performed after surgical excision of an EMP of the palate helped in staging, demonstrating increased ^{18}F -FDG uptake in an hypopharyngeal EMP; hence, surgical treatment was carried out as the disease was localized.

Conflict of Interest Giorgio Treglia, Gaetano Paone, Alexandra Meyer, Luca Ceriani and Luca Giovannella declare that they have no conflicts of interest.

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