

F-18 FDG PET/CT imaging in the Ameloblastoma Follow Up

Zehra Pinar KOÇ¹ Pınar Pelin ÖZCAN² Emel SEZER³ Gökçe YAVAN⁴

¹Mersin University, Faculty of Medicine, Department of Nuclear Medicine, Mersin, Turkey, zehrapinarkoc@gmail.com

²Mersin University, Faculty of Medicine, Department of Nuclear Medicine, Mersin, Turkey, ppelinozcan@gmail.com

³Mersin University, Faculty of Medicine, Department of Oncology, Mersin, Turkey, emelsezer@mersin.edu.tr

⁴Mersin University, Faculty of Medicine, Department of Nuclear Medicine, Mersin, Turkey, gyavan95@gmail.com

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Keywords

Ameloblastoma,
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ABSTRACT

Ameloblastoma is a benign odontogenic tumor that originate from dental region (1). Previous reports have determined the F-18 FDG PET/CT findings of this tumor (1) and this is the first case with follow up results in the literature as far as we know.

Research Article

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1. Case report:

Sixtyseven years old female patient with the diagnosis of right mandibular Ameloblastoma was referred for F-18 FDG PET/CT with suspicion of recurrence. F-18 FDG PET/CT imaging was performed to the patient with previous starvation of 10 hours while the blood glucose level was 109 mg/dl by administration of intravenous 9.6 mCi FDG with 3 minutes per bed time in craniocaudal direction. The imaging revealed recurrent tumor at right mandible with FDG accumulation (SUVmax=4.49) (Figure 1a).

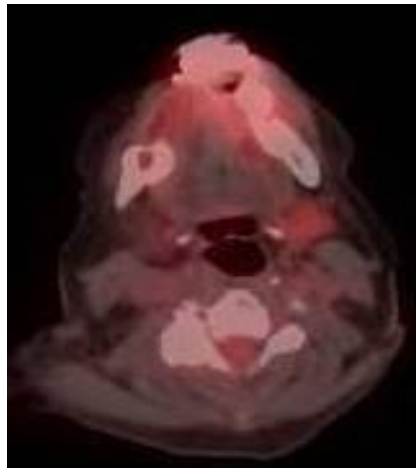


Figure 1a

The patient was subjected to 75 mg/m² Cisplatin and 50 mg/m² Adriamisin treatment and after 6 cycles of treatment the decrease of the FDG accumulation in the tumor was observed (Figure 1b).

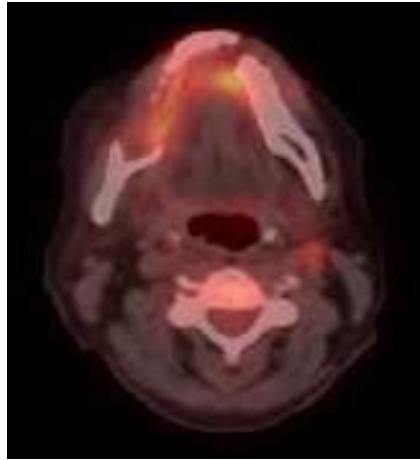


Figure 1b

2. Discussion

Ameloblastoma which is a benign tumor unfortunately can invade surrounding structures and can be recurrent (1). Furthermore, malignant version 'Ameloblastic carcinoma' might metastasize to lymph node and distant sites (1). There are limited number of case reports in the literature about the F-18 FDG PET/CT findings of these tumors (2, 3). There has been a case report with F-18 FDG PET/BT showing distant metastasis of Ameloblastic carcinoma at staging (3, 4). Otsuru et al. demonstrated that the recurrent Ameloblastoma might be determined by F-18 FDG PET/CT (5). This case report demonstrated that the diagnosis of recurrence as well as treatment follow up might be performed by F-18 FDG PET/CT in Ameloblastoma. This imaging modality might be helpful in Ameloblastoma as well as Ameloblastic carcinoma diagnosis, staging and follow up. This is the first case in the literature with follow up F-18 FDG PET/CT findings of Ameloblastoma.

REFERENCES

1. Seno S, Kitajima K, Inokuchi G, Nibu K, Itoh T, Ejima Y, Sasaki R, Sugimoto K, Sugimura K. FDG-PET findings of Ameloblastoma: a case report. Springerplus. 2015;4:250.
2. Inoue N, Shimojyo M, Iwai H, Ohtsuki H, Yasumizu R, Shintaku M, Taniguchi N, Inada M, Arika T, Morita S, et al. Malignant ameloblastoma with pulmonary metastasis and hypercalcemia. Report of an autopsy case and review of the literature. Am J Clin Pathol. 1988;90(4):474-81
3. Devenney-Cakir B, Dunfee B, Subramaniam R, Sundararajan D, Mehra P, Spiegel J, Sakai O. Ameloblastic carcinoma of the mandible with metastasis to the skull and lung: advanced imaging appearance including computed tomography, magnetic resonance imaging and positron emission tomography computed tomography. Dentomaxillofac Radiol. 2010;39(7):449-53Iban, M. C. (2020). Geospatial data science response to COVID-19 crisis and pandemic isolation tracking. Turkish Journal of Geosciences, 1(1), 1-7.
4. Nguyen BD. Malignant ameloblastoma with thoracic vertebral metastasis: PET/CT and MR imaging. Clin Nucl Med. 2005 Jun;30(6):450-2Yakar, M., Yilmaz, H. M., & Mutluoglu, O. (2014). Performance of photogrammetric and terrestrial laser scanning methods in volume computing of excavation and filling areas. Arabian Journal for Science and Engineering, 39, 387-394.
5. Otsuru M, Aoki T, Tsukinoki K, Ota Y, Karakida K, Yamazaki H, Yasuda M, Kaneko A. Usefulness of 18F-fluorodeoxyglucose positron emission tomography for detecting ameloblastoma, with special reference to glucose transporter-1 expression. J Oral Maxillofac Surg. 2008 Aug;66(8):1761-5.

