Abstract

Epithelial-myoepithelial carcinoma (EMC) is a rare low-grade salivary gland neoplasm. Distant metastasis is rare, and $^{18}$F-fluorodeoxyglucose positron emission tomography/computed tomography ($^{18}$F-FDG PET/CT) has been used to determine the metastatic disease in EMC. $^{68}$Ga-fibroblast activation protein inhibitors (FAPI) PET/CT is a promising imaging modality for diagnostic and theognostic purposes in various malignancies. Comparison studies with $^{18}$F-FDG have investigated the role of $^{68}$Ga-FAPI PET/CT. Herein, we present $^{18}$F-FDG and $^{68}$Ga-FAPI-04 PET/CT findings of a 51-year-old woman with metastatic EMC arising from ex-pleomorphic adenoma of the parotid.

Keywords: $^{68}$Ga-FAPI, $^{18}$F-FDG, PET/CT, epithelial myoepithelial carcinoma

Öz

Epithelial-myoepithelial karsinom (EMK), nadir görülen düşük gradlı tükürük bezi neoplazmidir. Uzak metastazlar nadir görülmektedir ve $^{18}$F-fluorodeoksiglukoz pozitron emisyon tomografisi/bilgisayarlı tomografi ($^{18}$F-FDG PET/CT) kullanılmaktadır. $^{68}$Ga-fibroblast aktivasyon protein inhibitorleri (FAPI) PET/CT, çeşitli malignitelerde tanida ve teranostik amaçla kullanılan umut verici bir görüntüleme yöntemidir. $^{18}$F-FDG PET/CT ile karşılaştırmalı yapılan çalışmalar $^{68}$Ga-FAPI PET/CT'nin rolünü araştırmaktadır. Bu olguda parotisın eks pleomorfik adenomundan kaynaklanan metastatik EMK tanıları 51 yaşında kadın hastanın $^{18}$F-FDG ve $^{68}$Ga-FAPI-04 PET/CT bulgularının sunuyoruz.

Anahtar kelimeler: $^{68}$Ga-FAPI, $^{18}$F-FDG, PET/CT, epitelyal myoepitelyal karsinom
Figure 1. A 51-year-old woman with a history of parotidectomy due to pleomorphic adenoma five years ago was referred for \(^{18}\)F-fluorodeoxyglucose positron emission tomography/computed tomography (\(^{18}\)F-FDG PET/CT) due to suspicious lung nodules. Maximum intensity projection (A: MIP) and transaxial fused \(^{18}\)F-FDG PET/CT images showing a hypermetabolic mass located in the right parapharyngeal region (B: arrow), in addition to multiple lung lesions with mild to moderate FDG uptake (C, D: arrows).

Figure 2. Microscopic examination demonstrated that the tumor was composed of a bilayered arrangement of inner ductal cells (A: arrows) and outer myoepithelial cells (B: arrows). The inner luminal cells were immunoreactive for cytokeratin 7 (C) and EMA, whereas the outer myoepithelial layer exhibited p63 (D), S100 expression (E), and calponin (F). Histomorphological and immunohistochemical findings confirmed the diagnosis of epithelial-myopithelial carcinoma (EMC). In the literature, few cases reports have demonstrated distant metastasis in EMC, and therapy management remains unclear based on the limited efficacy results of recommended therapies (1,2). Because the tumors had mild to moderate FDG avidity and therapy options were limited, \(^{68}\)Ga-fibroblast activation protein inhibitors-04 (\(^{68}\)Ga-FAPI-04) PET/CT was planned to improve diagnostic accuracy and assess eligibility for radionuclide therapy.
Informed Consent: Patient consent was obtained.

Authorship Contributions

Conflict of Interest: No conflicts of interest were declared by the authors.

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References
5. Takumi K, Fukukura Y, Kamiyama T, Nakajo M, Ohori J, Kurono Y, Higashi M. Epithelial-myoepithelial carcinoma of the parotid gland: correlation of dynamic magnetic resonance imaging, (18)F-fluorodeoxyglucose-
positron emission tomography, and pathological findings. Jpn J Radiol 2010;28:618-622.

