Cumhuriyet Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi

# FDG PET/BT Görüntüleme Sırasında İlaca Bağlı FDG Tutulumunda Artış

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**Özet:** [18F]-2-floro-2-deoksi-D-glukoz (FDG) pozitron emisyon tomografisi/bilgisayarlı tomografi incelemeleri ancak ilaç etkileşimi olmayan ideal koşullarda gerçekleştirilebilir. Bu editör mektubunda FDG tulumunda artışa yol açan belli ilaçlar hakkında öz bilgi vermeyi amaçladık.

**Anahtar Kelimeler:** Fluorodeoksiglukoz F18, Pozitron-emisyon tomografi/bilgisayarlı tomografi, İlaç etkileri

## Drug Related Increase in FDG Uptake During FDG PET/CT Imaging

**Abstract:** Successful fluorine-18 fluorodeoxyglucose (FDG) positron emission tomography/computed tomography examinations can only be performed in ideal conditions without the interference of drugs. In this letter to editor, we aimed to give brief data about certain drugs which increase FDG uptake.

**Keywords:** Fluorodeoxyglucose F18, Positron-emission tomography/computed tomography, Drug effects

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**To the Editor,**

In the last issue of your Journal, we have published an original article regarding the effectiveness of Fluorine-18 fluorodeoxyglucose (FDG) positron emission tomography/computed tomography (PET/CT) in acquiring data about the metabolic parameters of primary gastric malignancies and their hepatic metastases (1). However, successful FDG PET/CT examinations like the above mentioned one can only be performed in ideal conditions such as without the interference of drugs. In this letter, we aimed to give brief data about the effects of certain medications on these examinations. Because of their potential to elevate blood sugar and therefore their risk to increase the FDG activity of the tissues, a basic knowledge about frequently used drugs such as glucocorticoids, phenothiazines, lithium, tricyclic antidepressants, phenytoin, thiazide diuretics, some antituberculosis drugs (i.e. isoniazid, rifampin) (2) is necessary for an ideal patient preparation before the examination in order to obtain high quality images without any bias. Particularly regarding the glucocorticoids, the timing of the FDG PET/CT study may be needed to be adjusted according to the time of intake of these drugs (3). As another solution, insulin treatment may decrease the level of increased blood sugar after the intake of these medications (4). Because of the fact that the referring physician of the patient can apply the above mentioned measures, witholding of these medications are not recommended before the examination (3). Doxorubicin containing chemotherapy for Hodgkin lymphoma was reported to cause an increase in cardiac FDG uptake (5). Metformin was stated to prominetly increase the bowel FDG activity particularly of the large intestine (6, 7). Discontinuation of metformin 2–3 days before FDG PET/CT examination (preferably replacing it with another oral antidiabetic) significantly reduces the high FDG uptake of the bowels due to metformin (8, 9). The FDG activity within brown adipose tissue (BAT) may interfere with that of malignancy (3). Because of this, nicotine and sympathomimetics such as ephedrine should be stopped before FDG PET/CT examination because of their potential to increase the BAT activity (10). Systemic thyrotropin-releasing hormone was also reported to increase the function of cold-stimulated BAT in adult males (11). Obtaining a detailed medical history of the patient before the examination is crucial to prevent or minimize drug

related increase in FDG uptake during FDG PET/CT imaging.

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