Graft Infection Imaging with FDG and FDG-labeled Leukocytes

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Picture 1.

A 74-year-old man with an aortobifemoral bypass graft presented with abdominal pain. Positron emission tomography (PET)/CT with fluorodeoxyglucose (FDG) and FDG-labeled white blood cells (WBCs) was performed on two separate days. The FDG PET/CT images demonstrated the presence of a retroperitoneal mass with no uptake (Picture 1, long arrow). Correlative ultrasound imaging confirmed that the mass had a mesh-like appearance. Additionally, there was intense FDG accumulation suggestive of infection neighboring the proximal part of the graft (Picture 1, small arrow). FDG-labeled WBC imaging revealed intense FDG-labeled WBC accumulation at the proximal part of the graft

only, which was consistent with infection (Picture 2). Although FDG PET is a useful diagnostic method for imaging infectious and inflammatory lesions, FDG accumulates in both areas of aseptic inflammation and the majority of oncological diseases. FDG-labeled WBC scanning was therefore suggested as an alternative method (1). We herein showed that the distribution patterns of the two tracers were dissimilar and that FDG-labeled WBCs accumulate more intensely than FDG in infectious areas.

The authors state that they have no Conflict of Interest (COI).

Picture 2.

Reference

1. Osman S, Danpure HJ. The use of 2-[18F]fluoro-2-deoxy-D-

glucose as a potential in vitro agent for labeling human granulocytes for clinical studies by positron emission tomography. *Int J Rad Appl Instrum B* **19**: 183-190, 1992.