

5th International Conference on

BRAIN DISORDERS AND THERAPEUTICS

November 29-30, 2017 | Madrid, Spain

Current status of 18 F-DOPA PET imaging in the detection of brain tumor recurrence

Juan Manuel Isusi Alcazar

The National Autonomous University of Mexico, Mexico

Considering the intrinsic limits of fluorine-18-fluoro-2-deoxy-D-glucose positron emission tomography/computed tomography (18F-FDG PET/CT) for diagnosing brain tumors and tumor recurrence, several radiopharmaceuticals have been developed to detect brain tumor recurrence after treatment. Among others, a promising tracer is fluorine-18-desoxyphenylalanine (DOPA), due to its very low rate of physiological distribution in normal brain structures of white and grey matter. The aim of our study was to assess the feasibility of PET/CT with 18 F-DOPA in the detection of brain tumor recurrence after treatment, in comparison with MRI performance and other PET radiopharmaceuticals, currently employed in this field. The 18F-DOPA PET/CT seems to be useful in the diagnosis of patients with suspected brain tumor recurrence, because of low signal ratio in normal brain white and grey matter, in particular as compared to 18 F-FDG PET/CT low performance. Related data are presented for other fluorinated amino acid tracers. Magnetic resonance imaging is the gold standard of diagnosis and 18F-DOPA PET/CT is adjuvant to diagnosis. Further studies are needed to enrich our knowledge about this promising tracer, 18 F- DOPA, especially on its possible role on semi-quantitative measurements in brain tumors.

Recent Publications

Becherer A, Karanikas G and Szabó M et al., (2003) Brain tumor imaging with PET: a comparison between [18F] fluorodopa and [11C] methionine. *European Journal of Nuclear Medicine and Molecular Imaging* 30(11):1561-7.

Culverwell A D, Scarsbrook A F and Chowdhury F U (2011) False-positive uptake on 2-[18F]-fluoro-2-deoxy-D-glucose (FDG) positron-emission tomography/computed tomography (PET/CT) in oncological imaging. *Clinical Radiology* 66(4):366-82.

Nozawa A, Rivandi A H, Kesari S et al. (2013) Glucose corrected standardized uptake value (SUV_{gluc}) in the evaluation of brain lesions with 18 F-FDG PET. *European Journal of Nuclear Medicine and Molecular Imaging* 40(7):997-1004.

Tripathi M, Sharma R and D'Souza M et al. (2009) Comparative evaluation of F- 18 FDOPA, F-18 FDG, and F-18 FLT-PET/CT for metabolic imaging of low grade gliomas. *Clinical Nuclear Medicine* 34(12): 878-83.

Wyss M T, Spaeth N and Biollaz G et al. (2007) Uptake of 18F-Fluorocholine, 18 F- FET and 18 F-FDG in C6 gliomas and correlation with 131 I-SIP(L19), a marker of angiogenesis. *Journal of Nuclear Medicine* 48(4):608-14.

Biography

Juan Manuel Isusi Alcazar is a specialist in radiology and image curing in public and private hospitals. Subspecialist in neuroradiology graduated from the national institute of neurology and neurosurgery in the city of Mexico. He has participated in various congresses as a speaker and with national electronic works from his country within the Mexican Society of Radiology Mexican and Mexican Society of Neuroradiology. Also has participated in international congresses within the Iberoamerican Society of Neuroradiology (SILAN), Argentine Society of Radiology, European Society of Radiology. He was head of service within public hospitals within the Mexican Institute of Social Security (IMSS), until he arrived as medical deputy director in the state of Mexico. Neuroradiology founder of the Mexican School of Molecular Radiology in the city of Mexico since 2015. Currently carries two masters one in hospital administration and health management and the other is his address. And this is improving your english in the UNAM to bring other borders with the cerebral pet ct.

manuelisusialcazar38@gmail.com

Notes: