Meetings International
SciTechnol

Rivera Bravo Belen et al., J Diagn Tech Biomed Anal 2018, Volume: 7
DOI: 10.4172/2469-5653-C1-011

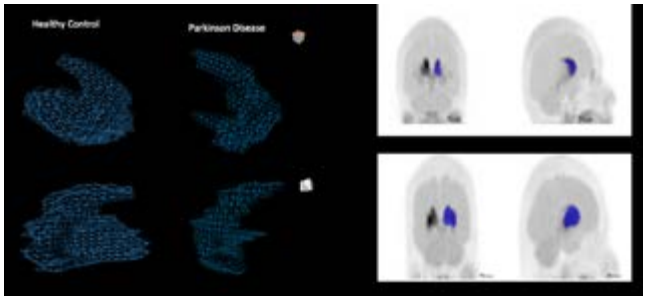
International Conference on
NUCLEAR MEDICINE AND RADIATION THERAPY
July 16-17, 2018 | Madrid, Spain

Imaging the dopaminergic system: Analyzing the pre and postsynaptic pathways and its clinical relevance in Parkinson's disease

Rivera Bravo Belen, Acevedo Flores Karla, Avendano Estrada Arturo and **Avila Rodriguez Miguel Angel**
National Autonomous University of Mexico, Mexico

The aim of this study is to introduce the radiopharmaceuticals for imaging the dopaminergic system at pre and postsynaptic levels: 18F-FDOPA, 11C-DTBZ and 11C-Raclopride, describing its mechanism of uptake and biodistribution of each one. The utility of these radiopharmaceuticals involved in the PET/CT study of the patient with Parkinson´s Disease (PD) for the differential diagnosis of PD versus Parkinsonian syndromes (progressive supranuclear palsy, multiple system atrophy and corticobasal degeneration). These images have clinical relevance as they image the dopaminergic system at pre and postsynaptic pathways, reflecting the molecular alteration site of dopamine metabolism. It is especially useful for differential diagnosis of patients diagnosed and treated as Parkinson´s disease, but not responding to levodopa medication. At our center we are realizing quantitative analysis of the images with parametric analysis, heterogeneity characterization of the alterations and determining the receptor binding potential of the radiopharmaceuticals.

Conclusion: Imaging of the alterations of the dopaminergic pathway at molecular level provides relevant information for clinical decision making in PD patients. Quantitative imaging analysis may provide more specific and precise data of metabolic alterations regarding the severity of the disease and treatment response that may establish newer parameters for understanding PD, resulting in personalized and precise medicine.



Texture analysis of 11C-DTBZ uptake in stratium structures of a healthy control versus a PD patient.

Biography

Belen Rivera Bravo has completed the General Medicine Degree in 2004 at the Faculty of Medicine of the National Autonomous University of Mexico (UNAM). She is working as Nuclear Medicine Specialist (2007), and as a Fellow in Oncologic Nuclear Medicine (2008), both in UNAM. She is the Head of the PET/CT Unit of the Faculty of Medicine (FM) of UNAM. She is currently appointed as the Professor of the Faculty of Medicine of UNAM since 2015 and is the Head of research projects in molecular imaging, with indexed publications related to Nuclear Medicine and Molecular Imaging.

belen13@yahoo.com

Notes: