g and 2200g, 10-min. each) for obtaining the PLT concentrate in a small volume (0.5 ml) of plasma. After labeling, we evaluate DEPER parameters using Hemocitometry and AV parameters using cytofluorimetry, P-selectin membrane expression and trypan blue vital dyeing. The whole process was then replied as a Mediafill analysis and small amount of the final sample were thereafter tested for apyrogenicity and sterility. **Results:** The mean ± DS results in the 20 samples by DEPER classification are: **D**ose of injected platelet 4650±1358x10^6, **E**nrichment factor of PLT 16,7±2,2, **P**urity of labeled PLT as % of WBC_{NEUTR} and RBC residual factor, respectively 6±3,3% and 3,6± 2,9%, labeling **E**fficiency 70%, PLT **R**ecovery 58 %. All functional tests showed normal platelet function, in particular AV classification demonstrates a vital PLT percentage at rest >99%. All apyrogenicity and sterility tests showed normal results. **Conclusions:** our method seems to be fast, safe and efficient. The increase in labeled platelet absolute number allows to draw a smaller amount of blood volume in patient with thrombocytopenia, an higher labeling efficiency and consequently better quality images. The use of a commercial kit makes it easy and easily reproducible preserving biological function of platelet for warranting reliable and high quality exams.

1311 **Tuesday, October 16, 2018, 11:30 - 13:00, Hall A**

e-Poster Walk 9 - Neuroimaging: Neuroimaging

E-PW081

***In vivo* Imaging of Microglial Activation in Patients with Clinical Suspected Progressive Supranuclear Palsy: A 18F-GE180 PET study**

J. Sauerbeck[1], L. Beyer[1], G. Rohrer[2], S. Sonnenfeld[2], G. Nübling[2], G. Höglinger[3], P. Bartenstein[1], J. Levin[2], A. Rominger[4], M. Brendel[1]; [1]Department of Nuclear Medicine, Ludwig-Maximilians-University of Munich, Muenchen, GERMANY, [2]Department of Neurology, Ludwig-Maximilians-University of Munich, Muenchen, GERMANY, [3]DZNE - German Center for Neurodegenerative Diseases, Munich, Muenchen, GERMANY, [4]Department of Nuclear Medicine, University Hospital of Bern, Bern, SWITZERLAND.

Introduction: Progressive supranuclear palsy (PSP) is a 4R-tauopathy with a severe clinical course. The pathophysiological processes are not sufficiently understood and a causal therapy for this life limiting disease is still missing. The neuropathological hallmark of PSP are accumulated tau protein fibrils that were claimed to be responsible for following neurodegeneration. Microglial activation has been shown to occur in PSP as another hallmark of the disease. Therefore, we aimed to establish in vivo imaging of microglial activity by 18kDa translocator protein (TSPO) PET. **Methods:** Seven patients with probable PSP according to current diagnosis criteria underwent 18F-GE180 TSPO PET. All images were scaled by the global mean and standardized uptake value ratios (SUVR) were generated in brain regions typically affected in PSP. Voxel-wise differences were calculated using seven healthy individuals (HC) serving as controls. Furthermore, we compared patterns of microglial activity with 18F-THK5351 PET (tau/MAO-B ligand) deriving from previously imaged patients with PSP, matched for age and disease severity. **Results:** Significantly increased 18F-GE180 binding in PSP versus HC was found in the anterior cingulate gyrus (+22%, $p < 0.001$), globus pallidus (+14%, $p < 0.005$), and nucleus dentatus (+24%, $p = 0.001$). Voxel-wise microglial activation matched known regions of disease affection in PSP except for the midbrain. Contrary 18F-THK5351-PET showed increased binding predominantly in the midbrain (+19%, $p < 0.001$) and binding was also significantly elevated in brain regions with increased TSPO activity. **Conclusion:** TSPO-PET imaging in PSP patients is feasible and patterns of microglial activation correlated topologically with most brain regions known to be affected in PSP. The particularly low microglial activation in the midbrain compared to highest binding of tau/MAO-B ligands needs further investigation by specific ligands for tau and astrocytosis.

E-PW082

Changes In Metabolism And Related Connectivity In Patients With Acrophobia Treated By Virtual Reality Therapy: A ^{18}F-FDG PET Study Sensitized By Virtual Reality Exposure

***A. Verger[1]**, E. Malbos[2], E. Raynaud[3], P. Mallet[4], D. Mestre[4], J. Pergandi[4], S. Khalfa[3], E. Guedj[5]; [1]Department of Nuclear Medicine, CHRU Nancy, Nancy, FRANCE, [2]Department of Psychiatry, APHM, Marseille, FRANCE, [3]Institute of Neurosciences, CNRS UMR7289, Marseille, FRANCE, [4]Institute of Movement Sciences, CNRS, Marseille, FRANCE, [5]Department of Nuclear Medicine, APHM, Marseille, FRANCE.*

Purpose: Research into the underlying causes and treatment of acrophobia is of particular interest owing to its high prevalence, chronicity and cumulative social impact. Virtual reality exposure therapy (VRET) has shown its effectiveness in the treatment of this disease. The aim of this PET study was to characterize brain metabolism of patients with acrophobia, and investigate the impact of VRET on metabolic rate of glucose and related connectivity. **Methods:** Before VRET, 18 patients with acrophobia performed a brain 18F-FDG-PET sensitized by VR exposure during the radiopharmaceutical administration. Among them, 9 patients were tested again with PET during VR exposure after VRET. Clinical response to VRET was evaluated by subjective unit of discomfort (SUD) and behavioural avoidance test (BAT). Statistical Parametric Mapping-T-scores-maps were applied for comparison between patients and 18 age- and gender-matched healthy control subjects ($p<0.05$, corrected for family wise error comparison), and for comparison between patients before and after VRET ($p<0.005$, corrected for cluster volume). Metabolic connectivity was evaluated through inter-regional correlation analysis. **Results:** SUD and BAT were significantly improved in patients after VRET ($p \leq 0.02$). Before therapy, patients with acrophobia showed a decreased of metabolism in bilateral medial temporal areas in comparison with controls. After VRET, patients presented an increased metabolism in left frontal superior gyri and left precentral gyrus, and an increase of metabolic connectivity between this region and occipital areas (respective coefficient of correlation before and after treatment