

P56: Relationship of basal ganglia mineralization to "off-target" AV-1451 binding in Down syndrome

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[F-18]AV-1451 PET is the most widely used method to measure pathologic tau deposits associated with the pathophysiology of Alzheimer's disease (AD). It has been demonstrated that binding of [F-18]AV-1451 in the basal ganglia (BG) is likely "off-target", as it is observed in healthy elderly and is age related. Several groups have now suggested that mineralization within the BG is associated with [F-18]AV-1451. Further, mineralization within the BG has been reported pathologically in Down syndrome (DS).

Objective: To assess the relationship of [F-18]AV-1451 binding to mineralization within the basal ganglia.

Methods: 22 participants with DS (mean age 41.9 years) underwent [F-18]AV-1451 PET and MRI (including FLAIR and SWI sequences). [F-18]AV-1451 80-100 min summed images were created and warped to a common space via FreeSurfer, an ROI was created in the region of BG most commonly associated with mineralization. Images were converted to SUVR by normalization to FreeSurfer cerebellar gray matter. MRI FLAIR and SWI images were rated for mineralization using a 4-point rating scale (Penke et al., 2012) and the relationship between mineralization rating and [F-18]AV-1451 SUVR in the BG was explored using Spearman correlations.