Background: Image interpretation of [C-11]BF-227 amyloid PET is not easy because of its low contrast between positive and negative accumulation. The purpose of this study was to propose and validate a method for visual interpretation of BF-227 PET. Methods: Subjects were 10 normal subjects (NL), nine patients with mild cognitive impairment (MCI), and 12 patients with Alzheimer’s disease (AD) who underwent BF-227 PET in Tohoku University and National Center for Geriatrics and Gerontology according to the J-ADNI protocol. BF-227 PET image of 20-40 min after injection was spatially normalized using BF-227 template and SPM. SUVR (standard uptake value ratio) image was calculated with the cerebellar reference value which was obtained with combination of common cerebellar region of interest on the standard brain and gray-white cutoff value on each individual BF-227 image. SUVR image smoothed with Gaussian kernel filter (8 mm in FWHM) was displayed with rainbow color scale. The images were visually interpreted by two interpreters who were blinded to the clinical category and the results of CSF biomarkers. The images were designated as positive or negative scan by whether substantial intensity and extent of radioactive signal was observed or not mainly in the inferior temporal lobes. The values of CSF biomarkers were rescaled to signed Z scores in the normal population in J-ADNI. Results: Positive scan rate by the visual interpretation of NL, MCI, and AD were 0%, 29%, and 100%, respectively. The proposed interpretation method for BF-227 PET is considered to be appropriate.

Methods: We performed retrospective case-control study compared 293 TGA patients with 632 TIA patients and 293 normal controls matched for age and sex. Vascular risk factors and findings from SPECT imaging analysis using voxel-based morphometry were recorded. Results: Present study revealed that TGA cases had a significant higher prevalence of ischemic heart disease and hyperlipidemia although lower prevalence of hypertension, DM, previous ischemic stroke and atrial fibrillation compared to TIA patients. TGA patients also showed significantly higher prevalence of hyperlipidemia, previous ischemic stroke and ischemic heart disease compared with age-sex-matched.