The study investigated the distribution of MCI subtypes and age in different centers. Frequency of the ε4 allele also varied according to the centers’ location in Europe. The average frequency was lowest (8%) in Thessaloniki, Greece, and highest (33%) in Bath, England. The variables of center, age, and apo E genotype were significantly associated with MCI subtype in a multivariate logistic regression analysis. The effect of center was the strongest predictor of MCI subtype, and it could not be explained by the age or apo E status alone. “There is something else inherent in center,” Dr. Graff said. If one hypothesizes that the different MCI subtypes predict the type of dementia that a person will develop, this could mean that the prevalence of the different types of dementia differ among these countries, she pointed out.

**EEG Abnormalities in Amnestic Subtype**

Decline in the function of posterior cortical regions of the brain such as the temporal, occipital, and parietal lobes characterize the resting EEG of patients with amnestic MCI, Flavio Nobili, M.D., reported at the congress.

In a preliminary analysis, the temporal, occipital, and parietal cortical regions of the brain in 96 patients who had digital EEG performed at five centers had significant reductions in θ frequency, compared with the same regions in 33 control patients matched for age, sex, and education. This result is “consistent with the hypothesis of a transition stage between amnestic MCI and Alzheimer’s disease,” said Dr. Nobili of the department of clinical neurophysiology at the University of Genoa (Italy).

**Impact of Apo E Genotype**

The frequency of the ε4 allele of the apolipoprotein E gene (apo E) varies significantly with specific MCI subtypes and between regions of Europe but does not have strong enough predictive value alone to distinguish among MCI subtypes, according to Caroline Graff, M.D., Ph.D., of the Karolinska University Hospital, Huddinge, Sweden.

The distribution of ε4 allele frequency and the average age of patients differed significantly among the four MCI subtypes in a group of 386 patients at 11 centers who were genotyped for apo E allele status. The frequency of the ε4 allele increased from 17% of nonamnestic patients to 21% of those with subjective MCI, 30% of amnestic multiple domain, and 32% of amnestic single domain. Age varied from 68 years in subjective MCI to 72 years in amnestic single-domain patients. The differences were still significant when the four subtypes were collapsed into a nonamnestic group composed of the subjective and nonamnestic MCI patients (19%, 68 years) and an amnestic group composed of the amnestic single- and multiple-domain groups (31%, 72 years).

The distribution of MCI subtypes and age was significantly different among the centers. Frequency of the ε4 allele also varied according to the centers’ location in Europe. The average frequency was lowest (8%) in Thessaloniki, Greece, and highest (33%) in Bath, England.

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