The purpose of this study was to examine the relationship between APOE genotype and ability to perform ADLs in persons with aSAH. The presence of the E4 allele has been shown to influence functional outcome following ischemic stroke and aSAH. However, the role of APOE genotype in determining outcome following aSAH has not previously been explored. This study aimed to address this gap in knowledge by evaluating the relationship between APOE genotype and ability to perform ADLs post-aSAH.

Methods

Subjects were prospectively recruited as part of an ongoing NIH-funded study approved by the IRB. Patients were included in the study if they were between the age of 18 and 75 years old, diagnosed with aSAH verified with cerebral angiogram, able to read/speak English, and had no previous history of neurological disorders. Genotypes were classified based on the presence or absence of at least one APOE E4 allele. A significant association was found between the presence of E4 allele and ability to perform ADLs post-aSAH has been previously shown in a mild-cognitive impairment population. Multivariate linear regression was performed to determine the relationship between APOE genotype and outcome variability in BI scores controlling for age, sex, and severity of clinical condition.

Results

No significant association was found between APOE genotype and BI score at 3 and 12 months post-aSAH (p=0.88 and p=0.95). A significant association was found between HH score and BI score at 3 months (p<0.01), which nears significance at 12 months (p=0.05). HH score does appear to have an association with ability to perform ADLs, which supports existing literature suggesting initial clinical condition is a significant predictor of functional outcome.

Conclusions

APOE genotype does not appear to have a significant impact on ability to perform ADLs post-aSAH. These results support findings from Wagle et al. (2010) who found no significant relationship between APOE genotype and ability to perform ADLs after ischemic and hemorrhagic stroke. HH score does appear to have an association with ability to perform ADLs, which supports existing literature suggesting initial clinical condition is a significant predictor of functional outcome. We are in the process of adding more subjects to the analysis. Results from this study adds to the mixed evidence regarding the relationship between APOE genotype and functional outcome post-aSAH, warranting a need for further exploration of genotype as a predictor of outcome variability.