**Distinct Effects of *APOE* ε2 on Aβ in Alzheimer- and Vascular-Type Cognitive Impairment**

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**Supplemental Data:** Additional Methods, Table e-1, and Table e-2

**Additional Methods**

The selected cerebral cortical VOIs included the following regions: bilateral frontal (superior and middle frontal gyri, the medial part of the superior frontal gyrus, opercular part of the inferior frontal gyrus, triangular part of the inferior frontal gyrus, supplementary motor area, orbital part of the superior, middle, and inferior orbital frontal gyri, rectus and olfactory cortex); posterior cingulate gyri; parietal (superior and inferior parietal lobules, supramarginal and angular gyri, and precuneus); lateral temporal (superior, middle, and inferior temporal gyri, and Heschl gyri); and occipital (superior, middle, and inferior occipital gyri, cuneus, calcarine fissure, and lingual and fusiform gyri).

**Table e-1** LCA results of AIC and BIC values for k = 1 to k = 5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **One class** | **Two classes** | **Three classes** | **Four classes** | **Five classes** |
| **AIC** | 7439.7 | 7173.0 | 7167.1 | 7172.5 | 7183.8 |
| **BIC** | 7465.7 | 7292.4 | 7255.4 | 7229.6 | 7334.4 |

Abbreviations: LCA = latent cluster class analysis; AIC: Akaike information criterion; BIC: Bayesian information criterion.

**Table e-2** Prevalence estimates of Aβ positivity according to age and *APOE* genotype in the SVCI and ADCI groups

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **SVCI, % (95% CI)** | | |  | **ADCI, % (95% CI)** | | |
| **Age, years** |  | **ε3/ε3** | **ε2 carriers** | **ε4 carriers** |  | **ε3/ε3** | **ε2 carriers** | **ε4 carriers** |
| **50** |  | 2.9 (0.9–8.8) | 6.6 (2.0–20.1) | 11.0 (3.7–28.2) |  | 57.8 (48.9–66.2) | 38.4 (24.1–54.9) | 87.5 (82.3–91.3) |
| **55** |  | 4.5 (1.7–11.1) | 10.0 (3.5–25.1) | 16.2 (6.8–33.8) |  | 56.2 (48.9–63.2) | 36.8 (23.6–52.3) | 86.7 (82.2–90.2) |
| **60** |  | 6.8 (3.2–13.9) | 14.8 (6.2–31.1) | 23.2 (12.0–40.1) |  | 54.5 (48.7–60.2) | 35.2 (22.9–49.9) | 85.9 (81.9–89.2) |
| **65** |  | 10.3 (5.8–17.4) | 21.3 (10.5–38.4) | 32.1 (19.9–47.2) |  | 52.8 (48.1–57.5) | 33.7 (22.1–47.8) | 85.1 (81.4–88.1) |
| **70** |  | 15.2 (10.2–22.1) | 29.8 (16.7–47.2) | 42.5 (30.6–55.3) |  | 51.1 (46.9–55.3) | 32.2 (21.1–45.8) | 84.2 (80.6–87.3) |
| **75** |  | 21.9 (16.4–28.5) | 39.9 (24.6–57.4) | 53.6 (42.3–64.5) |  | 49.4 (44.9–54.0) | 30.8 (20.0–44.2) | 83.3 (79.3–86.6) |
| **80** |  | 30.5 (23.6–38.4) | 50.9 (33.3–68.3) | 64.4 (52.8–74.5) |  | 47.8 (42.2–53.3) | 29.4 (18.8–42.8) | 82.3 (77.7–86.2) |
| **85** |  | 40.7 (30.3–52.0) | 61.9 (42.1–78.4) | 73.9 (61.3–83.5) |  | 46.1 (39.2–53.1) | 28.0 (17.5–41.6) | 81.3 (75.7–85.9) |
| **90** |  | 51.8 (36.8–66.4) | 71.7 (50.4–86.4) | 81.6 (68.2–90.1) |  | 44.4 (36.1–53.0) | 26.6 (16.1–40.7) | 80.3 (73.3–85.8) |

The prevalence estimates of Aβ positivity according to *APOE* genotype were generated from logistic regression analyses after adjusting for age (continuous) and *APOE* genotype (ε2 carriers, ε3 homozygotes, and ε4 carriers). The number of participants (ε2 carriers/ε3 homozygotes/ε4 carriers) for modeling in the 50s/60s/70s/80s/90s age range was 8 (0/5/3)/50 (6/35/9)/160 (19/95/46)/89 (7/56/26)/3 (2/1/0) in the SVCI group and 149 (5/81/63)/307 (15/150/142)/390 (23/175/192)/150 (11/93/46)/3 (0/3/0) in the ADCI group, respectively.

Abbreviations: Aβ = amyloid–β; *APOE* = apolipoprotein E; SVCI = subcortical vascular cognitive impairment; ADCI = Alzheimer’s disease-related cognitive impairment.