**Supplementary Material**

**Midlife Insulin Resistance as a Predictor for Late-Life Cognitive Function and Cerebrovascular Lesions**

**Supplementary Table 1.** Differences between the IR- and IR+ groups in domain-specific neurocognitive test scores, with outliers included.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | IR- | IR+ | p-value | Effect size |
| Domain-specific neurocognitive test z-scores, mean (SD) |  |  |  |  |
| Executive functions (n=57) | 0.14 (0.50) | -0.14 (0.49) | 0.02 | -0.55 |
| Processing speed (n=59) | 0.38 (0.60) | -0.39 (0.90) | 0.0008 | -0.90 |
| Episodic memory (n=59) | 0.12 (1.0) | -0.13 (0.77) | 0.28 | -0.28 |
| Language (n=58) | 0.28 (0.78) | -0.25 (0.80) | 0.017 | -0.64 |

The p-values for unadjusted differences between individuals with and without insulin resistance at baseline in 2000, assessed with Wilcoxon rank sum test. The effect sizes of the differences between the groups calculated by using Cohen’s d.

**Supplementary Table 2.** Characteristics of the original Health2000 study population and of the participants of the present PET study at baseline in 2000.

|  |  |  |  |
| --- | --- | --- | --- |
| Baseline demographics | Health 2000 study population | Follow-up PET-study | p |
|  |  |  |  |
| n | 6062 | 60 |  |
| women (n/%) | 3339 / 55.1 | 33 / 55.0 | 0.99 |
| age at baseline (y) | 52.5 ±14.9 | 55.4 ±3.3 | <0.0001 |
| education (y) | 11.2 ±4.1 | 12.0 ±4.1 | 0.12 |
| *APOE* ε4 genotype (n/%) | 1817 / 32.1 | 30 / 50.0 | 0.002 |
| HOMA-IR | 2.23 ±4.23 | 1.97 ±1.23 | 0.56 |
| BMI (kg/m2) | 26.9 ±4.7 | 27.5 ±4.0 | 0.33 |
| HbA1c (%) | 5.3 ±0.5 | 5.2 ±0.3 | 0.66 |
| Total cholesterol (mmol/l) | 5.9 ±1.1 | 6.2 ±1.0 | 0.07 |
| HDL cholesterol (mmol/l) | 1.33 ±0.38 | 1.39 ±0.39 | 0.23 |
| Triglycerides (mmol/l) | 1.58 ±1.02 | 1.49 ±0.78 | 0.87 |
| Hypertension | 2882/47.7 | 31/51.7 | 0.53 |
| Current smoking (n/%) | 1299/21.5 | 9/15.0 | 0.22 |

The results are shown as mean ±SD, unless otherwise stated. p-values for differences between the participants of this PIB-PET follow-up study and the participants of the Health 2000 survey. Differences between the continuous variables are assessed with Student’s *t*-test, and between categorical variables with Pearson’s ChiSquare test. A logarithmic transformation (loge) is used of HOMA-IR, HbA1c, and triglycerides in the analyses.



**Supplementary Figure 1.** Flow chart of the study population.