Supplemental materials

**Neuropsychiatric symptoms are associated with exacerbated cognitive impairment**

**in covert cerebral small vessel disease**

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**Supplemental table 1.** Cognitive raw scores in 134 subjects with available NPI-Q data

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| **Cognitive domain** | **Neuropsychological test** | **Mean (SD)** |
| Processing speed | WAIS-IV Coding1 | 47.3 (12.8) |
|  | Stroop test (colour-congruent)2, correct responses in 45 seconds | 54.7 (11.2) |
|  | FAT Numbers3 (similar to Trail Making A4), time (s) | 50.1 (19.9) |
| Executive functions | Stroop test (colour-incongruent)2, correct responses in 45 seconds | 30.1 (10.1) |
|  | Verbal fluency5, total correct responses for animals and two letters | 53.7 (14.8) |
|  | Hayling Sentence Completion Test6, error score | 8.4 (10.0) |
|  | Brixton Spatial Anticipation Test6, error score | 19.8 (7.3) |
|  | FAT Number-Letter3 (similar to Trail Making B4), time (s) / number of correct responses | 4.3 (2.0) |
| Memory | WMS-III Word List7, total immediate recall | 26.5 (6.4) |
|  | WMS-III Word List7, delayed recall | 5.2 (2.7) |
|  | WMS-III Logical memory7, immediate recall | 13.6 (4.2) |
|  | WMS-III Logical memory7, delayed recall | 11.5 (4.5) |
|  | Rey Complex Figure Test5, delayed recall | 13.0 (6.7) |
| Working memory | WMS-III Letter-Number Sequencing7 | 8.2 (2.2) |
|  | WMS-III Digit Span7 | 14.1 (2.7) |
|  | FAT Visuospatial Span3,8  forward  backward | 4.5 (1.4)  4.2 (1.4) |
| Visuospatial perception | WAIS-IV Block Design1 | 32.2 (11.1) |
|  | Rey Complex Figure Test5, copy | 29.8 (5.7) |
| Verbal reasoning | WAIS-IV Similarities1 | 26.4 (4.1) |

FAT, Flexible Attention Test (computerised modification of the Trail making test and the Corsi block-tapping test); NPI-Q, Neuropsychiatric Inventory Questionnaire; WAIS-IV, Wechsler Adult Intelligence Scale IV; WMS-III, Wechsler Memory Scale III

**References**

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**Supplemental table 2.** Cognitive, functional and neuropsychiatric scores in groups based on WMH severity (Fazekas score none/mild vs. moderate/severe) in 134 subjects with available NPI-Q data

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| --- | --- | --- |
| **Score, mean (SD)** | **Fazekas group** | |
| **None/mild** | **Moderate/Severe** |
| Global cognition composite score | 0.1 (0.6) | -0.2 (0.6) |
| Processing speed composite score | 0.2 (0.8) | -0.2 (0.9) |
| Executive functions composite score | 0.1 (0.7) | -0.2 (0.6) |
| Memory composite score | 0.1 (0.8) | -0.2 (0.8) |
| MoCA score | 23.9 (3.0) | 22.9 (3.7) |
| A-IADL score | 67.7 (3.2) | 65.4 (6.0) |
| NPI-Q number of symptoms | 0.6 (1.0) | 1.2 (1.9) |

A-IADL, Amsterdam Instrumental Activities of Daily Living; MoCA, Montreal Cognitive Assessment; NPI-Q, Neuropsychiatric Inventory Questionnaire; WMH, white matter hyperintensity