

Supplementary Data

Inflammatory Proteins and the Severity of Dilated Virchow-Robin Spaces in the Elderly

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MRI EXAMINATION

Exclusion criteria for scans were: 1) presence of an internal electrical/magnetic device; 2) history of neurosurgery or aneurysm; 3) presence of metal fragments in the eyes, brain, or spinal cord; and 4) claustrophobia. MRI acquisition was performed on a 1.5-Tesla Magnetom (Siemens; Erlangen, DE). A three-dimensional high-resolution T1-weighted brain volume was acquired using a three-dimensional inversion recovery fast spoiled-gradient echo sequence (repetition time = 97 ms; echo time = 4 ms; inversion time = 600 ms; coronal acquisition). The axially reoriented three-dimensional volume matrix was $256 \times 192 \times 256$ size with a $1.0 \times 0.98 \times 0.98$ mm³ voxel size, yielding 124 slices covering the whole brain. T2- and proton density-weighted brain volumes were acquired using a two-dimensional dual spin echo sequence with two echo times (repetition time = 4,400 ms; echo time 1 = 16 ms; echo time 2 = 98 ms). T2 and proton density acquisitions consisted of 35 axial slices 3.5 mm thick (0.5 mm spacing),

having a 256×256 matrix size, and a 0.98×0.98 mm² in-plane resolution.

dVRS RATING

In basal ganglia, the degree of severity was defined according the slice containing the greatest number of dVRS as 1st: <5 dVRS; 2nd: 5 to 10 dVRS; 3rd: >10 dVRS but still numerable; and 4th: innumerable dVRS resulting in a cribriform change in basal ganglia. In white matter, the degree of severity was defined as 1st: ≤ 10 dVRS in total white matter; 2nd: >10 dVRS in total white matter and <10 dVRS in the slice containing the greatest number of dVRS; 3rd: 10 to 20 dVRS in the slice containing the greatest number of dVRS; and 4th: >20 dVRS in the slice containing the greatest number of dVRS (see Supplementary Table 1). The intra-rater agreement was of $\kappa = 0.77$ for basal ganglia and $\kappa = 0.75$ for white matter.

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Supplementary Table 1
Severity classification of dVRS in basal ganglia or white matter

Degree	Basal ganglia*	White matter
1st	<5 dVRS	≤10 dVRS in total white matter
2nd	5 to 10 dVRS	>10 dVRS in total white matter and <10 in the slice containing the greatest number of dVRS
3rd	>10 dVRS, still numerable	10 to 20 dVRS in the slice containing the greatest number of dVRS
4th	Innumerable dVRS with cribriform change	>20 dVRS in the slice containing the greatest number of dVRS

dVRS, dilated Virchow-Robin Spaces.

*In the slice containing the greatest number of dVRS.