Abstracts

Articles appearing in the March 2018 issue

Spatiotemporal evolution of venous narrowing in acute MS lesions

Objective To investigate the spatiotemporal evolution of venous narrowing in newly developing multiple sclerosis (MS) lesions in a longitudinal MRI study including susceptibility-weighted images (SWIs).

Methods We retrospectively investigated serial MRI examinations of 18 patients with MS acquired on a 3T MRI system including SWI for acute contrast-enhancing lesions with at least 1 MRI examination before contrast enhancement. The mean diameter of veins at the time point of contrast enhancement was compared with the mean diameter of veins before and after contrast enhancement.

Results A total of 40 acute contrast-enhancing lesions with a corresponding intralesional central vein were included in the study. The mean diameter of intralesional veins at the time of contrast enhancement (0.80 ± 0.12 mm) was smaller than that at before (1.16 ± 0.19 mm) and after contrast enhancement (1.07 ± 0.15 mm; $p < 0.001$ for all comparisons).

Conclusions Our findings contribute to the increasing database of plaque development and evolution. The smaller diameter of intralesional veins on SWI at the time of blood-brain barrier breakdown may reflect morphologic changes because of perivascular inflammation or decreased levels of deoxygenated hemoglobin.

[NPub.org/N2/9105a](https://pubmed.ncbi.nlm.nih.gov/30105054/)

Open-label, add-on trial of cetirizine for neuromyelitis optica

Objective This pilot study preliminarily examined the efficacy and tolerability of cetirizine as an add-on to standard therapy for neuromyelitis optica (NMO).

Methods Eligible participants met the Wingerchuk 2006 diagnostic criteria or had a single typical episode along with positive NMO immunoglobulin G. After baseline clinical and laboratory assessments, participants began treatment with cetirizine 10 mg orally daily, in addition to their usual disease-modifying therapy for NMO, and continued for 1 year. The primary endpoint was the annualized relapse rate (ARR) while on the same disease-modifying therapy before starting cetirizine compared with after taking cetirizine. Additional endpoints included disability (Expanded Disability Status Scale [EDSS]), relapse severity, and tolerability, especially with respect to drowsiness measured by the Epworth Sleepiness Scale (ESS), and laboratory measures.

Results The ARR before cetirizine was 0.4 ± 0.80 and after cetirizine was 0.1 ± 0.24 ($p = 0.047$). There was no statistically significant difference in the EDSS (mean 3.9 ± 2.18 before the start of the study and 3.2 ± 2.31 at the conclusion of the study, $p = 0.500$). The ESS remained fairly consistent throughout the study (mean 6.5 ± 5.33 at baseline and 6.9 ± 4.50 at month 12, $p = 0.740$). Laboratory studies were unrevealing.

Conclusions In this pilot study, cetirizine was well-tolerated, and the prespecified primary efficacy endpoint was satisfied. However, the open-label design and the small sample size of this pilot study preclude definitive conclusions. Further research is needed.

Classification of evidence This study provides Class IV evidence that in patients with NMO, the addition of cetirizine to standard therapy is safe, is well-tolerated, and reduces relapses.

[NPub.org/N2/9105b](https://pubmed.ncbi.nlm.nih.gov/3010505b)

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