

P116

Magnetic Resonance Imaging in Multiple Sclerosis (MAGNIMS) Score Predicts Long-term Clinical Disease Activity (CDA)-free Status and Disability Progression in Subcutaneous Interferon Beta-1a (scifn β -1a)-treated Patients

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Background: This post-hoc analysis of SC IFN β -1a-treated patients from the PRISMS study examines the association of year (y) 1 MAGNIMS score on time to CDA event and disease progression.

Methods: In PRISMS-2, relapsing-remitting MS patients were randomized to SC IFN β -1a 22 or 44 μ g, or placebo, three times weekly for 2 years. Placebo patients were randomized to SC IFN β -1a 22/44 μ g at y3. Patients were followed to y15 post-randomization (22 μ g n=95; 44 μ g n=95; placebo n=100). We classified SC IFN β -1a patients by y1 MAGNIMS score: 0 (0–2 new t2 lesions+0 relapses), 1 (0–2 new t2 lesions+1 relapse or >3 new t2 lesions+0 relapses) or 2 (0–2 new t2 lesions+ \geq 2 relapses or \geq 3 new t2 lesions+ \geq 1 relapse). CDA-free was defined as no relapses or disability progression (increase of 1 point from baseline in expanded disability status scale [EDSS] score, or 1.5 points in patients with EDSS 0). Median times (95% confidence interval [CI]) to first CDA event and EDSS progression from y1, and respective hazard ratios (HR [95%CI]) versus MAGNIMS score of 0, are presented.

Results: At y1, 129, 108 and 130 SC IFN β -1a patients had MAGNIMS score of 0, 1 and 2, respectively. Median time to CDA event was longer in patients with y1 MAGNIMS score of 0 (2.6 [2.1–3.5] years) vs 1 (1.7 [1.5–2.0] years; HR=1.7 [1.3–2.3]) and 2 (1.3 [1.2–1.4] years; HR=2.4 [1.9–3.2]). Median time to EDSS progression was longer in patients with y1 MAGNIMS score of 0 (7.5 [6.9–13.5] years) vs 1 (4.0 [3.5–7.5] years; HR=1.5 [1.1–2.1]) and 2 (2.5 [1.9–3.5] years; HR=2.1 [1.6–2.9]).

Conclusions: In PRISMS, MAGNIMS score at y1 predicted risk of CDA event or disability progression in SC IFN β -1a -treated patients.