TRANSFORMS: ORAL FINGOLIMOD (FTY720) VERSUS INTERFERON BETA-1A IN RELAPSING-REMITTING MULTIPLE SCLEROSIS: CLINICAL EFFICACY RESULTS

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Background: Oral fingolimod (FTY720), a sphingosine 1-phosphate receptor modulator, is under evaluation for the treatment of relapsing-remitting multiple sclerosis (RRMS). TRANSFORMS compared daily oral FTY720 with intramuscular (IM) interferon beta-1a (IFNβ-1a) in RRMS patients for 12 months. Objectives: To report TRANSFORMS clinical efficacy results. Methods: In this 12-month, randomized, double-blind, double-dummy study, RRMS patients (aged 18–55 years) with Expanded Disability Status Scale (EDSS) scores of 0 to 5.5 and ≥1 relapse in the previous year (or ≥2 in the previous 2 years) were randomized to receive daily FTY720 0.5 mg or 1.25 mg or weekly IM IFNβ-1a 30 μg. Clinical measures included annualized relapse rate (ARR) and disability progression (defined as a 1-point EDSS increase from baseline or a 0.5-point increase if baseline was ≥5.5, confirmed after 3 months). Results: ARR at 12 months was lower with FTY720 0.5 mg (0.16) and 1.25 mg (0.20) versus IM IFNβ-1a (0.33, P < .001 for both comparisons). The proportion of relapse-free patients at 12 months was higher with FTY720 0.5 mg (0.83) and 1.25 mg (0.80) versus IM IFNβ-1a (0.69, P < .001 for both comparisons). Fewer FTY720-treated patients experienced relapses requiring steroids and/or hospitalization (13.1% and 16.2%, respectively) versus IM IFNβ-1a (25.3%, P < .01 for both comparisons). Time to EDSS progression confirmed at 3 months (main disability outcome) was not statistically improved, although risk of progression favored fingolimod (Kaplan-Meier estimate; hazard ratio [HR], 0.70 for 0.5 mg and 0.87 for 1.25 mg group) compared with IM IFNβ-1a. Mean change in EDSS score compared with control (mean change, +0.01) was improved in the 1.25 mg group (−0.11, P = .02) and approached significance in the 0.5 mg group (−0.08, P = .06). Conclusions: FTY720 significantly reduced ARR for 12 months, including relapses requiring steroids and/or hospitalization. Time to disability progression was not significantly improved, although disability measures suggested a treatment effect. The short study duration limits an ability to detect differences in disability progression between groups.

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