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Efficacy of Cladribine Tablets in Patients with Relapsing-Remitting Multiple Sclerosis (RRMS) in the 120-Week Extension to the CLARITY Study

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Background: Cladribine tablets (CTs), given annually for 2 years in short-duration courses in CLARITY, significantly improved clinical (relapses and disability progression) and magnetic resonance imaging (MRI) outcomes. After a variable treatment gap (median 40 weeks), 2 additional years of CT treatment versus placebo were assessed in CLARITY-Extension (EXT). This analysis assessed the efficacy of CT in patients with relapsing–remitting multiple sclerosis (RRMS) treated for 2 additional years beyond the initial 2 years (CLARITY).

Methods: In CLARITY, patients were randomized to treatment with placebo or CT (3.5 or 5.25 mg/kg bodyweight). In CLARITY-EXT, placebo recipients in CLARITY received CT3.5 mg/kg; cladribine recipients were re-randomized 2:1 to CT3.5 mg/kg or placebo (five groups in total). This allowed comparison of 2 years-only treatment plus ≥2 years follow-up versus 4 years' treatment. Clinical assessments included annualized relapse rate (ARR) and disability score.

Results: Baseline characteristics were similar across groups, although placebo recipients in CLARITY showed evidence of greater clinical and magnetic resonance imaging (MRI) disease activity. In groups treated with CT in CLARITY, efficacy was maintained in CLARITY-EXT; 2 years' additional CT treatment was associated with a slight incremental benefit. ARR in patients treated with CT3.5 mg/kg in CLARITY and placebo in CLARITYEXT was 0.15 (97.5% confidence interval (CI): 0.09–0.21; n = 98); in patients treated with CT3.5 mg/kg in both CLARITY and CLARITY-EXT, ARR was 0.10 (97.5% CI: 0.06–0.13; n = 186, p = 0.059). Both groups showed comparable proportions of relapse-free patients (75.6% and 81.2%, respectively) and time-tofirst relapse (vs first dose in CLARITY). Median Expanded Disability Status Scale (EDSS) scores were comparable across all groups; no significant between-group differences were seen in time to confirmed 3-month EDSS progression in CLARITY-EXT.

Conclusion: CLARITY-EXT demonstrated that in a majority of patients, the clinical benefits of CT3.5 mg/kg given in Years 1 and 2 may be maintained for ≥4 years, with decisions on further treatment based on monitoring during this period.