P647

Impact of Teriflunomide Treatment on Real-World Quality of Life in the Phase 4 Teri-PRO Study

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OBJECTIVE

- **To evaluate patient-reported quality of life outcomes, measured by the Multiple Sclerosis International Quality of Life (MusiQoL) questionnaire, during the 48-week Teri-PRO (Teriflunomide Patient-Reported Outcomes) study**

INTRODUCTION

- Teriflunomide is a once-daily oral immunomodulator approved for the treatment of relapsing-remitting MS in 69 countries. Approximately 55,000 patients have been treated with teriflunomide as of April, 2016, with total exposure to the 14-mg dose approaching 70,000 patient-years
- The consistent efficacy of teriflunomide has been demonstrated in placebo-controlled studies of patients with relapsing forms of MS (RMS),[1–3] and in those who experienced a first clinical episode suggestive of MS[4]
  - Teriflunomide also has a manageable, well-characterized safety and tolerability profile,[1–5] confirmed over the longer term in extension studies[6–9]
- In MS, long-term preservation or improvement of quality of life should be regarded as an important indicator of therapeutic success, as it reflects many important aspects of the patient's life, including perceptions of treatment benefit and functional signs of disease worsening[10]
- The phase 4 Teri-PRO study (NCT01895335) evaluated patient treatment satisfaction with teriflunomide using patient-reported outcomes, as well as efficacy, safety and tolerability, in routine clinical practice
- Quality of life was evaluated as a secondary outcome in this study
- Teri-PRO outcomes, including treatment satisfaction (primary outcome), patient-reported disability, and safety and tolerability, are described in ePoster EP1484 (Coyle et al),[11] and posters P646 (Gold et al)[12] and P648 (Coyle et al),[13] respectively, at this congress

METHODS

Study Design and Patients

- Teri-PRO was a prospective, global, multicenter, single-arm, open-label study
  - Patients with RMS were recruited from sites in the US, Canada, Europe, and Chile; patients in the US were treated with teriflunomide 7 or 14 mg (dose determined by the treating neurologist), while those in the rest of the world were treated with teriflunomide 14 mg, according to local labeling
- The full study design and eligibility criteria have been presented previously,[14] and are briefly described in ePoster EP1484[11] at this congress

Quality of Life Secondary Endpoints

- Quality of life, as measured by the MusiQoL scale[10]:
  - MusiQoL consists of 31 questions, divided into 9 dimensions: Activities of Daily Living, Psychological Well-being, Symptoms, Relationships With Friends, Relationships With Family, Sentimental and Sexual Life, Coping, Rejection, and Relationship With Healthcare System
    - Higher scores reflect higher quality of life in that dimension
  - MusiQoL has been validated in 20 countries and 14 languages, in relapsing-remitting, secondary progressive, and progressive relapsing MS, as well as in clinically isolated syndrome. It has shown high levels of internal consistency, reproducibility, and test-retest reliability[10]
- Patients' leisure activity, as measured by the Stern Leisure Activity Scale[15]
  - Consists of 13 questions assessing the patient's participation in leisure activities such as walking, reading, or visiting during the preceding month; 1 point is given for participation in each of the 13 activities, and an aggregate score is obtained
  - A score ≤6 is considered as low leisure activity and a score >6 as high leisure activity

Timing of Assessments

- MusiQoL and Stern Leisure Activity Scale scores were assessed at baseline and Week 48 (or end of treatment)

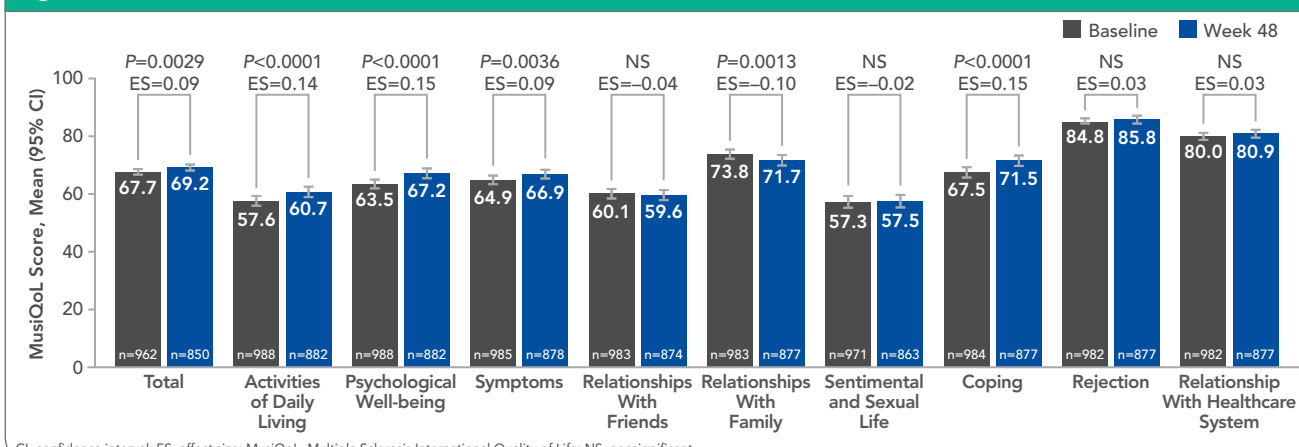
Analysis Population

- All patients who received ≥1 dose of teriflunomide were included in the analyses

CONCLUSIONS

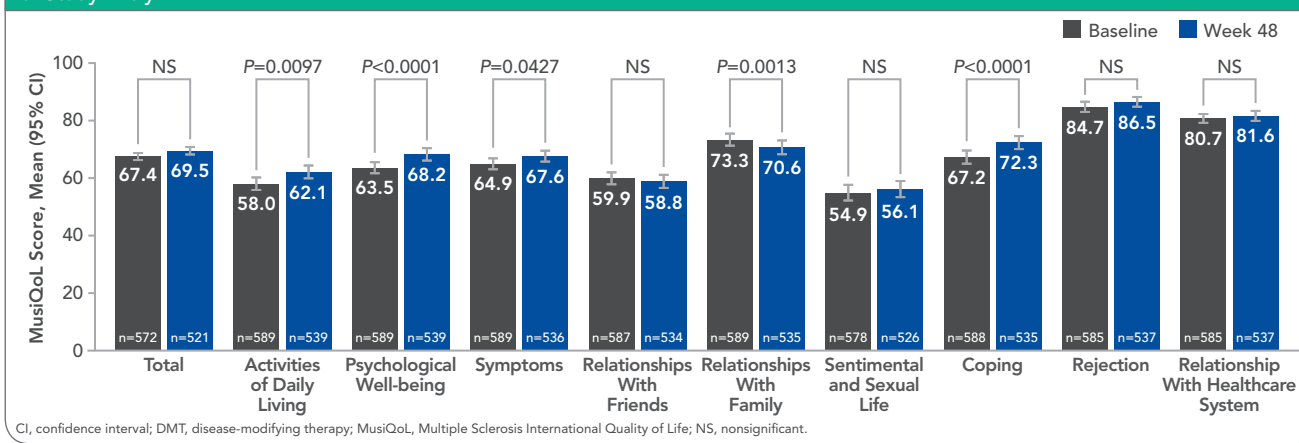
- **Over 48 weeks, most patients in the Teri-PRO study reported stable or improved quality of life, as reflected in the MusiQoL total score and almost all of the MusiQoL subscales**
  - **For the full group of patients, statistically significant improvements were seen in the Activities of Daily Living, Psychological Well-being, Symptoms, and Coping subscales**
- **Patient leisure activity levels also remained high and stable over the course of the study, further supporting the results for quality of life**
- **These observations, in combination with other patient-reported outcomes collected in the Teri-PRO study, demonstrate the value of teriflunomide treatment to patients with relapsing-remitting MS in a real-world clinical practice setting**

Figure 1. MusiQoL Total and Subscale Scores at Baseline and Week 48



CI, confidence interval; ES, effect size; MusiQoL, Multiple Sclerosis International Quality of Life; NS, nonsignificant.

Figure 2. MusiQoL Total and Subscale Scores at Baseline and Week 48 in Patients Switching From Another DMT Within 6 Months of Study Entry



CI, confidence interval; DMT, disease-modifying therapy; MusiQoL, Multiple Sclerosis International Quality of Life; NS, nonsignificant.

Effect Size

- Effect size (ES), potentially useful in evaluating whether differences in groups over time are clinically meaningful and relevant to patients, was defined as the change from baseline divided by the standard deviation of the change
  - ES for the quality of life endpoints was calculated for the full group of patients, but not for those switching from another disease-modifying therapy (DMT) within 6 months of study entry
- Clinical significance was defined as per the ES limits set out by Cohen[16]: <0.2, negligible; ≥0.2 to <0.5, small; ≥0.5 to ≤0.8, moderate; and >0.8, high

Statistical Analysis

- In a post hoc analysis, *P* values were derived from an ANCOVA model of change from baseline adjusted for baseline score and baseline Expanded Disability Status Scale score categorized as ≤3.5 or >3.5

RESULTS

- A total of 1001 patients were included in the Teri-PRO study and 1000 were treated; most received teriflunomide 14 mg (n=928, 92.8%), with only a small number receiving teriflunomide 7 mg (n=72, 7.2%, US only)
- Demographics and baseline disease characteristics are reported in poster P646 (Gold et al)[12]

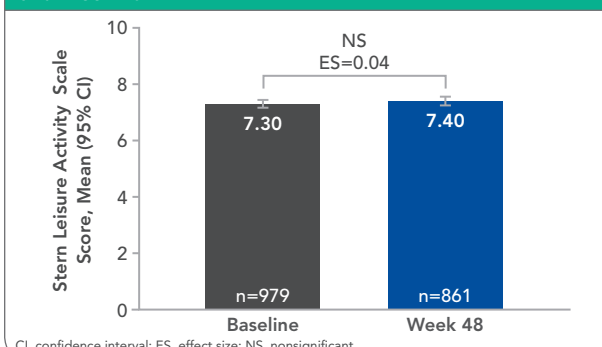
MusiQoL

- There was a statistically significant increase in MusiQoL total score from baseline to Week 48 in the full group of patients, although the ES of the change was negligible according to Cohen's criteria[16] (**Figure 1**)
- MusiQoL subscale scores either remained stable or showed a statistically significant increase from baseline to Week 48 in all but 1 of the 9 MusiQoL subscales (**Figure 1**)
  - A small but statistically significant reduction was seen in the Relationships With Family subscale
  - In all cases, the ES of the change was negligible
- In patients switching from another DMT within 6 months (n=594), the total MusiQoL score remained stable over the course of the study, with a small (but statistically nonsignificant) increase in the total score at Week 48 (69.5) vs baseline (67.4)
  - MusiQoL subscale scores either remained stable or increased from baseline to Week 48 in 8 out of 9 MusiQoL subscales (**Figure 2**)
  - Statistically significant improvements were observed in the Activities of Daily Living, Psychological Well-being, Symptoms, and Coping subscales

Stern Leisure Activity Scale

- Scores in the Stern Leisure Activity Scale remained high and stable over the course of the study, with mean (95% confidence interval) values of 7.30 (7.16, 7.44) and 7.40 (7.24, 7.56) at baseline and Week 48, respectively, representing a mean increase of 0.07 (n=845, **Figure 3**)
  - In patients switching from another DMT within 6 months of study entry, the Stern score also remained stable over the course of the study, with mean scores of 7.38 and 7.44 at baseline and Week 48, respectively (*P* value nonsignificant)

Figure 3. Stern Leisure Activity Scale Scores at Baseline and Week 48



CI, confidence interval; ES, effect size; NS, nonsignificant.

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Teriflunomide is approved in many countries, including the US and the European Union, for the treatment of relapsing multiple sclerosis or relapsing-remitting multiple sclerosis. This material may contain information that is outside of the approved labeling in some countries.

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