Introduction

- Among patients with multiple sclerosis (MS), sustained adherence to injectable disease-modifying therapies (iDMTs) is common and reduces therapeutic effectiveness. Fingolimod was the first large, randomized, prospective study comparing treatment retention in patients with relapsing forms of MS treated with fingolimod 0.5 mg or an iDMT. In PREFER, treatment retention with fingolimod was significantly greater than with iDMTs.

Objective

- Determine whether the greater rate of treatment retention seen with fingolimod than with iDMTs in PREFER was robust to variations in baseline characteristics and/or post-randomization adherence.

Methods

- Study design: PREFER was a 12-month, phase 4, open-label, active-controlled, multicenter, randomized clinical trial (117 sites) in the United States.
- Eligibility criteria: Patients with relapsing forms of MS who were treatment naive or switched from an iDMT between 3 and 12 months prior to enrollment and had received no more than one class of iDMT (interferon or glatiramer acetate). The following characteristics were baseline exclusions: see Table 1.
- Randomization: Patients were randomized in a 1:1 ratio to fingolimod or pre-selected iDMT (interferon beta-1a or glatiramer acetate). The randomization was stratified by treatment group (i.e. fingolimod or iDMT) and post-randomization adherence, and post-randomization adherence was accounted for in all analyses.
- Primary endpoint: Retention rate in the iDMT group decreased from month 3 to month 4 (91.7% vs. 87.4%). Patients Switched from an iDMT to Fingolimod before the 3 Month Cut-Off
- Sensitivity analyses: In sensitivity analyses of treatment and treatment naïvety, the primary endpoint was not impacted by the significance of the primary endpoint (Figure 2a).

Results

- The study was not powered for subgroup analyses.

- Retention rate in the iDMT group decreased from month 3 to month 4 (91.7% vs. 87.4%). Patients Switched from an iDMT to Fingolimod before the 3 Month Cut-Off
- Sensitivity analyses: In sensitivity analyses of treatment and treatment naïvety, the primary endpoint was not impacted by the significance of the primary endpoint (Figure 2a).

Conclusions

- The significantly greater rate of treatment retention observed with fingolimod than with iDMTs, regardless of age, sex, race, disease status or subgroup status (Figure 3).

Disclosures

- The study was sponsored by Novartis Pharmaceuticals Corporation. USA.

References

- For a list of support to the investigators of the Consortiums of Multiple Sclerosis Centers. 1..pixel.2017.01.31/17/files/12178121.pdf

Acknowledgments

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Table 1. PREFERMS patient demographics and baseline characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Fingolimod (n=436)</th>
<th>iDMT (n=430)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>41.0 (10.6)</td>
<td>41.5 (10.8)</td>
<td>0.675</td>
</tr>
<tr>
<td>Sex (%)</td>
<td>Male 128 (29.5)</td>
<td>130 (29.7)</td>
<td>0.840</td>
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<td>Race (%)</td>
<td>Caucasian 351 (81.1)</td>
<td>345 (80.3)</td>
<td>0.161</td>
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<tr>
<td>BMI, kg/m²</td>
<td>26.9 (5.1)</td>
<td>27.0 (5.1)</td>
<td>0.13</td>
</tr>
<tr>
<td>Height, cm</td>
<td>173 (8.4)</td>
<td>172 (8.2)</td>
<td>0.24</td>
</tr>
<tr>
<td>Weight, kg</td>
<td>75.9 (17.7)</td>
<td>76.1 (17.8)</td>
<td>0.77</td>
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<tr>
<td>Time from randomization (months)</td>
<td>1 (0.2)</td>
<td>1 (0.2)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 1. Pre-randomization study design

Figure 2. Retention rates in PREFERMS. a) Analysis in the FAS and b) sensitivity analysis in the FAS excluding patients who switched treatment for reasons unrelated to efficacy or safety.

Figure 3. Retention rates on fingolimod and iDMTs in the FAS and by subgroup.