Adherence to Glatiramer Acetate 40 mg Versus Oral Disease-Modifying Therapies for Multiple Sclerosis

*Optum, Eden Prairie, MN, USA; Teva Pharmaceuticals, Inc., Malvern, PA, USA

INTRODUCTION

Multiple sclerosis (MS) is a chronic inflammatory disorder of the central nervous system. The most recent estimates of MS prevalence are 2.3 million individuals worldwide, and approximately 400,000 people in the United States. The prevalence of MS is much higher among individuals with MS than among males.

Objective

The objective of this study was to compare adherence and discontinuation between patients treated with GA 40 mg and those treated with theoral DMTs, using a large US claims database reflecting patients’ real-world behavior.

Methods

Study Design and Data Source

Retrospective study using administrative claims data from a large US health plan with national coverage during the period October 2012 through December 2014

Subject Selection

Oral DMT cohort included patients with 90 days or more of post-index after switch; patients who switched to GA 40 mg during post-index period; and patients who had 90 days or more of post-index after switch. For switched, the date of the switch to GA 40 mg was the index date.

Variables

Outcomes

Adherence: Medication possession ratio (MPR) and Proportion of days covered (PDC)

Analysis

All variables were analyzed descriptively, with means and standard deviations for continuous variables and counts and percentages for binary or categorical variables. Differences between the GA 40 mg and oral DMT cohorts were identified with chi-squared statistics and t-tests, adjusting for unequal variances as required.

RESULTS

The GA 40 mg cohort was older, on average, than the oral DMT cohort (48.5 years versus 45.0 years, P<0.001). There was no difference in the gender distribution between the cohorts (Table I).

The oral DMT cohort had a longer mean post-index period compared with the GA 40 mg cohort, largely based on cohort selection (Table I).

Table 2. Discontinuation by Index DMT Cohort

<table>
<thead>
<tr>
<th>MPR</th>
<th>GA 40 mg</th>
<th>Oral DMTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid N</td>
<td>(n=13,102)</td>
<td>(n=10,270)</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>0.80 (0.19)</td>
<td>0.85 (0.17)</td>
</tr>
<tr>
<td>P-value</td>
<td>&lt;0.001</td>
<td>0.056</td>
</tr>
</tbody>
</table>

The rate of discontinuation during the first 180 days of post-index period was lower in the GA cohort than in the oral DMT cohort. Thus, the GA 40 mg cohort showed better adherence.

Table 3. Adherence by Index DMT

<table>
<thead>
<tr>
<th>MPR</th>
<th>GA 40 mg</th>
<th>Oral DMTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid N</td>
<td>(n=13,102)</td>
<td>(n=10,270)</td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>0.80 (0.19)</td>
<td>0.85 (0.17)</td>
</tr>
<tr>
<td>P-value</td>
<td>&lt;0.001</td>
<td>0.056</td>
</tr>
</tbody>
</table>

CONCLUSIONS

This real-world analysis suggests that patients in the GA 40 mg cohort were more adherent and less likely to discontinue (i.e. more persistent) compared with the oral DMT cohort.

This improved adherence and persistence may be attributable to the safety profile of GA 40 mg and its component-free frequent dosing schedule.

LIMITATIONS

There are limitations associated with claims data that must be considered when interpreting these data:

- Diagnosis codes on medical claims may be misclassified, although this is unlikely to have affected this sample; this sample had MS diagnoses codes and received DMTs indicated specifically for MS.
- We cannot observe whether patients used their index DMTs as prescribed.
- A large majority of the GA 40 mg cohort switched from a previous DMT (principally GA 20 mg), while a smaller proportion of the oral DMT cohort switched from a previous DMT. The assignment of patients to the GA 40 mg cohort was pragmatic given the recent availability of the 40 mg formulation in the US. Future research, when GA 40 mg has more time on the market, should compare more balanced cohorts with respect to new DMT starts versus DMT switches.