Association Between Adherence to Multiple Sclerosis (MS) Disease Modifying Drug (DMD) Therapy and Moderate to Severe Relapses in a CoHORT of Commercial Members Followed for Three Years

E. Bowen, MD, MBA, and F.P. Gleason, Ph.D.

Online Therapeutics LLC, Eagan, MN, United States; University of Minnesota, College of Pharmacy, Minneapolis, MN, United States

Background

- More than a dozen different DMDs have been approved by the FDA for the treatment of RRMS.
- Clinical trials of disease modifying drugs (DMDs) for RRMS, typically are conducted as trials with a comparison group that receive placebo or standard treatment for more serious relapses (e.g., high dose glucocorticoids).
- Typically, this is administered as intravenous methylprednisolone (IVMP) for three to five days.
- Magnetic Resonance Imaging (MRI) in association with most DMDs have been a secondary outcome.

Methods

- From a monthly average of 13.9 million commercially insured members, we identified all those who were continuously enrolled between October 2013 and September 2014 (year 0).
- Outpatient treatment was analyzed, which would not otherwise be captured in claims data.
- The mean age of the adherent group was 55.1 years, while the mean age of the non-adherent group was 59.1 years.
- A second difference is that clinical trials have been limited to younger, healthier patients, whereas the observed cost is in partially managed care populations.
- The observed cost of $12,213 for MS members adherent versus $19,796 for those non-adherent are lower than those that have been reported from these clinical trials.

Results

- Table 1. Multiple Sclerosis (MS) Members with Clinical Relapse Experience During Three Years of Follow-Up

<table>
<thead>
<tr>
<th>Type of Relapse</th>
<th>Adherent</th>
<th>Non-adherent</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate to Severe</td>
<td>520 (18.2%)</td>
<td>1,039 (24.9%)</td>
<td>0.183</td>
</tr>
<tr>
<td>MS</td>
<td>520 (18.2%)</td>
<td>1,039 (24.9%)</td>
<td>0.183</td>
</tr>
<tr>
<td>Clinical relapse</td>
<td>520 (18.2%)</td>
<td>1,039 (24.9%)</td>
<td>0.183</td>
</tr>
</tbody>
</table>

- The mean age of the adherent group was 55.1 years, while the mean age of the non-adherent group was 59.1 years.
- The adherence measure was for “any DMD” use in the prior year (year 0). Two-thirds of the members (3,155) were adherent (DMD PDC 80% or greater proportion of days covered is an arbitrary cut-off). Although a DMD claim in the first year is consistent with adherence, it is not hard evidence of adherence. The measure is defined as a DMD claim in the prior year (year 0).
- The adherence measure was for “any DMD” use in the prior year (year 0). Two-thirds of the members (3,155) were adherent (DMD PDC 80% or greater proportion of days covered is an arbitrary cut-off). Although a DMD claim in the first year is consistent with adherence, it is not hard evidence of adherence. The measure is defined as a DMD claim in the prior year (year 0).
- The adherence measure was for “any DMD” use in the prior year (year 0). Two-thirds of the members (3,155) were adherent (DMD PDC 80% or greater proportion of days covered is an arbitrary cut-off). Although a DMD claim in the first year is consistent with adherence, it is not hard evidence of adherence. The measure is defined as a DMD claim in the prior year (year 0).

Conclusions

- Of the MS commercially insured members with a DMD claim in the first year of the study, 1,444 (46%) were adherent to DMDs in the following year (year 1).
- We also wanted to study the association of relapses with IVMP as evidence of relapse.

Limitations

- This study uses only information from administrative claims data and does not consider factors that might influence treatment outcomes.
- We did not identify whether patients were managed in inpatient settings with therapies other than DMDs or AVs.
- Adherence is assessed using claims data and may have activities undertaken by a member or administered by the prescriber, for example, a patient may have taken a DMD for less than or more than the duration of the study.

References