OBJECTIVE

- To evaluate the efficacy and safety of alemtuzumab over 8 years in patients from CARE-MS I and TOPAZ study.

CONCLUSIONS

- Efficacy of alemtuzumab on clinical, MRI lesion, and BVL outcomes was maintained over 8 years in patients with active RRMS who were treatment-naive.
- 78% of patients had stable or improved disability based on EDSS scores through Year 8.
- The incidence and severity of adverse events was supported by a low rate of serious adverse events.
- Alemtuzumab had a consistent safety profile through Year 8, and the overall incidence of AEs decreased over time.

METHODS

- In CARE-MS I (NCT00320346), 2 courses of alemtuzumab demonstrated significantly greater improvements in clinical and MRI outcomes versus SC IFNβ-1a over 2 years.
- The most frequent adverse events (AEs) with alemtuzumab were infections (0.9%) and malignancies (2.9%).
- Through Year 8, 71% of patients were free of 6-month confirmed new or enlarging T2 lesions.
- At Year 8, 78% of patients had improved or stable EDSS scores.

RESULTS

- Of the 349 patients who entered the extension study:
  - 197 (56%) received no additional treatment (no additional DMTs) at the investigator's discretion.
  - 58% of patients were relapse-free in Years 3–8.
- The incidence of AEs was reduced in Years 3–8 compared with the core study.
- No immune thrombocytopenia (ITP) or autoimmune nephropathy events occurred.
- The incidence of thyroid AEs peaked in Year 3 as reported previously, and declined subsequently through Year 8.
- The incidence of serious AEs was low (1.2%–2.7% per year). 5 deaths were reported in patients from CARE-MS I who entered TOPAZ.

Safety Through Year 8

- The incidence of AEs was reduced in Years 3–8 compared with the core study.
- Thyroid AEs incidence peaked in Year 3 as reported previously, and declined subsequently through Year 8.
- No immune thrombocytopenia (ITP) or autoimmune nephropathy events occurred.
- The incidence of serious AEs was low (1.2%–2.7% per year). 4 deaths were reported in patients from CARE-MS I who entered TOPAZ.
- 2 deaths occurred in Year 7 (1 previously reported case of acute respiratory distress syndrome, pneumonia, and acute renal failure, and a previously unreported death due to malignant neoplasm of unknown primary site metastasized with melanoma to the kidney and spinal cord). Both patients had a history of thyroid disease.

Table 1. Incidence of AEs by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>Y2</td>
</tr>
<tr>
<td>Any AE</td>
<td>30.0</td>
</tr>
<tr>
<td>Serious AEs</td>
<td>8.0</td>
</tr>
<tr>
<td>Infections</td>
<td>56.1</td>
</tr>
<tr>
<td>Severe infections</td>
<td>1.6</td>
</tr>
<tr>
<td>Autimmune AEs</td>
<td>0.4</td>
</tr>
<tr>
<td>Sensory AEs</td>
<td>0.0</td>
</tr>
<tr>
<td>ITP</td>
<td>0.5</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>0.0</td>
</tr>
</tbody>
</table>

References

Acknowledgments and Disclosures

The manuscript was prepared by a professional medical writer and reviewed by the authors to ensure that it was consistent with the approved scientific message and interpretation of the data. This manuscript contract was managed by Evidera, Inc. The writing support was funded by sanofi genzyme.