Oral fingolimod (FTY720) reduces the rate of relapses that require steroid intervention or hospitalization compared with intramuscular interferon β-1a: results from phase III study (TRANSFORMS) in multiple sclerosis

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on behalf of the TRANSFORMS [TRIAL Assessing injectable interferon β vs FTY720 Oral in Relapsing-remitting MS] Study Group

INTRODUCTION AND PURPOSE

- Oral fingolimod (FTY720) leads a new class of therapeutic compounds – the sphingosine 1-phosphate receptor (S1PR) modulators – and is being evaluated for the treatment of multiple sclerosis.
- In the 1-year phase III TRIAL Assessing injectable interferon β vs FTY720 Oral in Relapsing-remitting MS (TRANSFORMS) study, the overall annualized relapse rate (ARRs) in patients receiving daily fingolimod 0.5 mg (ARR = 0.16) and 1.25 mg (ARR = 0.20) were significantly lower than in patients receiving intramuscular (IM) interferon β-1a (IFN-β1a) 30 µg once weekly (ARR = 0.33).
- Furthermore, greater proportions of patients were relapse-free in the fingolimod 0.5 mg (82.6%) and 1.25 mg (79.5%) treatment arms than in the IFN-β1a group (69.3%).
- The impact on patients and cost burden associated with relapses are real and disease severity and the resulting level of intervention required to treat them.
- Severe relapses that result in hospitalization have been estimated to represent a 50-fold higher cost burden than relapses managed at home with symptomatic treatment.
- Approximately 71% of the total costs associated with the treatment of multiple sclerosis are accounted for by the costs of hospitalization (accommodation, physician care and various ancillaries).
- Disease-modifying treatments that reduce the frequency of severe relapses would therefore not only benefit patients, but also reduce healthcare costs.

METHODS

- The distribution of patients experiencing different categories of relapse in the fingolimod 0.5 mg and 1.25 mg arms were compared with the IFN-β1a arm using Fisher’s exact test.
- ARR of confirmed relapses were estimated using a negative binomial regression model adjusted for treatment, country, number of relapses in the previous 2 years, and baseline EDSS.

RESULTS

- A confirmed relapse was defined as new, worsening or recurrent symptoms occurring ≥ 30 days after the onset of the preceding relapse, lasting for ≥ 24 hours in the absence of infection and accompanied by an increase of ≥ 0.5 points in EDSS score, 1 point in two Functional Systems scores or 2 points in one Functional Systems score. ARR was calculated from the number of confirmed relapses over 1 year.

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<th>Relapse severity</th>
<th>Intervention</th>
<th>Mean cost per relapse (2002 US dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (No steroid, no hospitalization)</td>
<td>Core</td>
<td>243</td>
</tr>
<tr>
<td>Moderate (Sterile treatment, follow-up consultation)</td>
<td>Core</td>
<td>1847</td>
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DISCUSSION

- This study confirms the beneficial effect on relapse severity category distribution compared with IFN-β1a, a significant effect was observed for both fingolimod 0.5 mg (p < 0.001) and 1.25 mg (p = 0.003) (Table 3).
- The proportion of patients who experienced relapses requiring hospitalization was lower with fingolimod than IFN-β1a.
- The proportion of patients who experienced relapses requiring steroid treatment but not hospitalization was lower with fingolimod than IFN-β1a.

REFERENCES


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