COST-EFFECTIVENESS OF IDELALISIB IN COMBINATION WITH RITUXIMAB FOR THE TREATMENT OF RELAPSED/REFRACTORY CHRONIC LYMPHOCYTIC LEUKEMIA (CLL) IN PORTUGAL

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Objectives

- Objective is to assess the cost-effectiveness of idelalisib in combination with rituximab compared to rituximab in monotherapy in patients with relapsed/refractory CLL from a Portuguese societal perspective.
- CLL is the most common leukemia in the Western world and is clinically characterized by peripheral blood B-cell lymphoproliferative as well as lymphadenopathy, organomegaly, cytopenias and systemic symptoms in advanced stages.
- Although specific median survival is long, all CLL patients eventually relapse and most require multiple treatment regimens.
- Idelalisib, a potent and selective orally administered inhibitor of PI3Kδ, has been approved, in combination with rituximab, for the treatment of adult patients with CLL who have received at least one prior therapy.

Methods

- The international cost-effectiveness model was adapted to Portuguese health settings and is based on a partitioned survival approach, classifying patients by survival status (alive/dead), and for those alive by disease status (pre- or post-progression after prior therapy) (Figure 1).

Results

- Survival gains and direct medical costs were higher with idelalisib in association with rituximab compared to rituximab in monotherapy (Table 3).
- Costs related to adverse events and end-of-life care were higher with rituximab in monotherapy (Table 3).

Table 2. TRAEs disutility values.

<table>
<thead>
<tr>
<th>TRAE</th>
<th>IDAEL + RTU</th>
<th>RTU</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutropenia</td>
<td>0.10</td>
<td>0.00</td>
<td>0.10</td>
</tr>
<tr>
<td>Infusion</td>
<td>0.05</td>
<td>0.00</td>
<td>0.05</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td>0.09</td>
<td>0.00</td>
<td>0.09</td>
</tr>
<tr>
<td>Mucositis</td>
<td>0.09</td>
<td>0.00</td>
<td>0.09</td>
</tr>
<tr>
<td>Cholecystitis</td>
<td>0.05</td>
<td>0.00</td>
<td>0.05</td>
</tr>
</tbody>
</table>

- Resource use depends on the disease stage and whether there is overall response or no overall response.
- The consumption pattern of outpatient resources (visits, medication, diagnostic exams, etc.) was estimated based on a geographically representative national expert panel.
- The unit costs were taken from Portuguese legislation and NHS references.
- The Diagnosis-Related Groups database (DRG) for 2013 was used to estimate inpatient costs with adverse events (AE). Inpatient episodes were identified using the appropriate code (ICD 9 - CM).
- Univariate and probabilistic sensitivity analyses were performed in order to assess the robustness of the results.
- Model outputs included life years, quality-adjusted life years (QALYs), and incremental cost-effectiveness ratios (ICERs).

Conclusions

- Idelalisib plus rituximab in the treatment of relapsed/refractory CLL, compared with rituximab in monotherapy, is cost-effective in Portugal taking into account the nature and the stage of the disease.
- This information is relevant for different healthcare decision makers.

Acknowledgements

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References


Table 1. CLL utility values.

<table>
<thead>
<tr>
<th>Health State</th>
<th>Mean utility</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete response</td>
<td>0.91</td>
<td>0.01</td>
</tr>
<tr>
<td>Partial response</td>
<td>0.84</td>
<td>0.02</td>
</tr>
<tr>
<td>No change</td>
<td>0.79</td>
<td>0.02</td>
</tr>
<tr>
<td>End-line therapy</td>
<td>0.71</td>
<td>0.02</td>
</tr>
<tr>
<td>End-line therapy</td>
<td>0.65</td>
<td>0.02</td>
</tr>
<tr>
<td>Progressive disease</td>
<td>0.68</td>
<td>0.02</td>
</tr>
<tr>
<td>No change, progression</td>
<td>0.58</td>
<td>0.02</td>
</tr>
</tbody>
</table>

- Standard deviation;
- Treatment related adverse events (TRAEs) included are those most commonly observed at grade III/IV in the CLL randomised clinical trials.
- Each TRAE was associated to a specific disutility (Table 2).