Cost-effectiveness of Ofatumumab Plus Chlorambucil in First-Line Chronic Lymphocytic Leukemia in Canada

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RESULTS

- The base-case analysis revealed that OChl was likely to be cost-effective at a threshold of $100,000 per QALY gained. A variety of sensitivity and variability analyses confirmed that the model’s cost-effectiveness estimates were robust.

- The one-way sensitivity analysis revealed that the variable with the largest impact on base-case results was the baseline utility value. The proportions of patients advancing to subsequent lines of therapy after progression and the costs of the subsequent lines of therapy were also important when these parameters varied between the treatment arms.

- Figure 6 presents the joint distribution of incremental costs and effects estimated in the PSA (10,000 simulations) presented on the cost-effectiveness plane. Approximately 50% of the simulated points fell below the threshold of $100,000/QALY gained (Figure 5).

- Figure 4 and Table 6 present the cost-effectiveness scatter plots for first-line treatment with OChl and Chl.

CONCLUSIONS

- The base-case results indicate that the improved overall response rate, PFS, and OS in the OChl plus Chl group translated to improved long-term health outcomes.

- The uncertainty in model input parameters and costs associated with OChl were largely offset by reductions in the costs associated with treatment in subsequent lines.

- Results of the one-way sensitivity analysis altered the incremental cost-effectiveness ratio (ICER) for OChl compared with Chl to translate into improved long-term health outcomes.

- While the modeling results showed some sensitivity to the choice of utility values, both in the base-case analysis and in the one-way sensitivity analysis, the magnitude of this sensitivity was not large enough to modify the conclusions of the modeling described in this analysis.

- This analysis suggests that OChl is likely to be cost-effective at a threshold of $100,000/QALY gained. A variety of sensitivity and variability analyses confirmed that the model’s cost-effectiveness estimates were robust.

REFERENCES

Please see handout for complete reference list.

CONTACT INFORMATION

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Efficacy and Safety Data

The estimated effectiveness for the first-line treatments considered were drawn from the COMPLEMENT’s clinical trial data and included progression-free survival (PFS), best overall response (complete response, partial response, and stable disease; i.e., no, response), and overall survival (OS).

- The OS curves observed during the 5-year trial period persisted the 15 years following the end of the trial period.

- The increases in first-line treatment costs associated with OChl were small risk for the class of therapies to which O belongs.

- The analysis was undertaken from the perspective of the publicly funded health care system in Canada.

- Resource utilization and economic data were drawn from a regression analysis that tested in the variability analysis.

- A baseline utility of 0.75 was applied during the first model cycle before patients reached the treatment arm.

- The study investigated Chl at a dose of 40 mg/m² day 1 through day 8 of the first cycle, and 1,000 mg on day 8 of the first cycle, and 1,000 mg on day 1 of all subsequent cycles.

- The numbers of patients with a response to OChl or Chl and who progress more than 1 year after initiation were assessed.

- Model cycle length is 3 months (a half-cycle correction is applied).

- One-way and probabilistic sensitivity analyses (PSA) were performed.

- No evidence of PML was included in the key assumption that treatment arm was still available.

- The sensitivity of all safety analyses was modeled using the incidence of significant adverse events.

- Grade 4 adverse events nausea/vomiting, diarrhea

- Grade 2 adverse events nausea, pyrosis, mucositis

- Grade 1 adverse events allergic reactions, infections, infusion-related toxicity, and PML, (first-dose only) CHL, and neutropenia

- Grade 3 adverse events fever, chills

- Grade 4 adverse events death

- Grade 2 adverse events neutropenia

- Grade 1 adverse events fatigue

- Treatment arms were compared for two endpoints: OS and PFS. The one-way sensitivity analysis revealed that the variable with the largest impact on the base-case results was the baseline utility value.

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