PCN172 - Cost-effectiveness analysis of obinutuzumab in association to chlorambucil for patients with chronic lymphocytic leukemia when full-dose fludarabine is unsuitable in France
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Introduction

• Chronic lymphocytic leukemia (CLL) is the most common hematopathy in Western countries. The CLL patients are typically aged population (median diagnosis: 72 years old), with comorbidities (89% of CLL patients have at least one comorbidity1 and 46% have at least a major comorbidity2. These patients are ineligible for the gold standard treatment of CLL, and can be treated by various other therapies.

• Obinutuzumab, the first type II, glycoengineered anti-CD20 monoclonal antibody is now approved in Europe for patients with previously untreated CLL in association with Chlorambucil (Clb) based on the results of CLL11 study3.

Objectives

The objective of the study was to assess the incremental cost-effectiveness ratio (ICER) of obinutuzumab in association with chlorambucil (GClb) for CLL previously untreated patients who are unsuitable for full-dose fludarabine based therapy, from a French perspective.

Methods

• A three health-states Markov model were developed (Figure 1) with Excel 2010. Health states included Progression Free Survival (PFS), Progression and death. Weekly cycles were defined with a half cycle correction and a 10 years’ time horizon was applied.

• Due to CLL11 immature OS data, parametric functions were used to estimate PFS (Gamma) and CLL5 trial4 was used to estimate post-progression mortality.

• Comparators were rituximab in association with chlorambucil (RClb) and Clb alone. These treatments represent half of the prescriptions in France.

• A collective perspective was used to capture benefits and costs.

• Costs were expressed in euros 2016. Acquisition, administration, transportation (included in administration), supportive, adverse events costs were included in the analysis. Costs and resources were computed thanks to literature review, different databases (ENCC MCO 2012, CCAM 2016, NGAP 2016, Medicam and PMSI) and interviews.

• Utility values were based on a French study applying the Time Trade Off methodology. 9 health states were developed including adverse events (table 1). Utility values were developed according intravenous (IV) and oral treatments.

• Results were presented in cost per life year (LY) and cost per quality adjusted life year (QALY). Parameters and hypotheses were based on French economic guideline.

Results

• Total LY were 4.075 for Clb, 4.574 for RClb and 5.101 for GClb. Total QALY were 2.971 for Clb, 3.384 for RClb, and 3.874 for GClb.

• Total costs were 14 406 € for Clb, 31 810 € for RClb and 42 810 € for GClb on the 10 years’ horizon (table 2).

• Cost per LY were 25 836 €/LY vs. Clb and 20 403 €/LY vs. RClb.

• Cost per QALY were 29 149 €/QALY vs Clb and 22 045 €/QALY vs RClb.

• Deterministic sensitivity analysis (DSA) showed that no ICER exceeded 44 131 €/QALY vs Clb and 34 418 €/QALY vs RClb. Minimum ICER where 15 268 €/QALY vs Clb and 12 627 €/QALY vs RClb (figure 2, 3).

• Probabilistic sensitivity analysis (PSA) with 1000 Monte-Carlo simulations gave respectively 26 368 €/QALY vs Clb, 21 624 €/QALY and 23 977 €/QALY vs RClb. The costs effectiveness acceptability curves shown that 50% of ICER were below 24 500 €/QALY vs Clb and 13 000 €/QALY vs RClb. 80% of ICER were also below 28 000 €/QALY vs Clb and 17 000 €/QALY vs RClb. 100% of ICER were inferior to 40 000 €/QALY vs Clb and 44 000 €/QALY vs RClb (figure 4).

Conclusion

Based on current information, obinutuzumab in association to chlorambucil seems to be good value for money in the French healthcare system increasing QALY with moderate costs impact on long term horizon.

The introduction of the molecule seems sustainable from an efficiency perspective with manageable costs on the 10 years’ horizon with ICER inferior to 30 000 €/QALY. Uncertainty is fully captured thanks to deterministic sensitivity analysis and probabilistic sensitivity analysis without any ICER above 44 131 €/QALY vs. Clb and 34 418 €/QALY vs. RClb. In addition, 80% of ICER were below 28 000 €/QALY.

References


