EE448

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THE ECONOMIC IMPACT OF POLATUZUMAB VEDOTIN▼ AS FIRST-LINE THERAPY FOR HIGH-RISK DLBCL ON SUBSEQUENT TREATMENTS WITHIN THE ITALIAN NATIONAL HEALTH SERVICE

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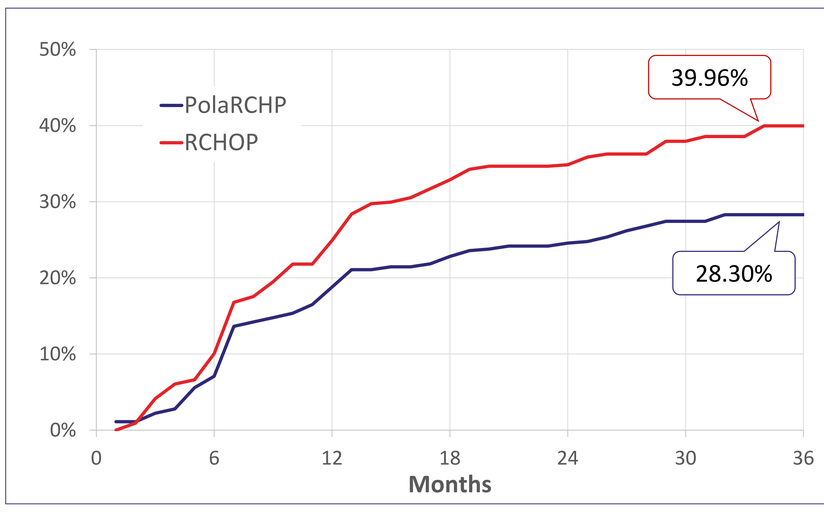
Objective

- 1L Diffuse Large B-Cell Lymphoma (DLBCL) is the most prevalent type of Non-Hodgkin's lymphoma (NHL), representing approximately one-third of adult NHL cases and 80% of aggressive NHL cases. [1]
- While many patients achieve a cure with rituximab plus chemotherapy (R-CHOP), up to 40% may not respond adequately or may relapse after an initial positive response. [1]
- Polatuzumab vedotin, an anti-CD79b antibody-drug conjugate, shows in patients with an International Prognostic Index (IPI) score of 2-5, a 27% reduction in the risk of progression, relapse, or death when combined with rituximab and chemotherapy (Pola-R-CHP) compared to standard R-CHOP – stratified hazard ratio by Cox regression, 0.73; 95% confidence interval (CI) 0.57 to 0.95. [1]
- At a 2-year follow-up, patients with DLBCL IPI 2-5 treated with polatuzumab in the first line (L1) received significantly fewer (-38%) subsequent anti-lymphoma therapies (systemic therapies, radiotherapy, autologous transplant, and CAR-T) compared to those treated with R-CHOP. [1]
- These findings were particularly evident in high-risk patients (International Prognostic Index, IPI 3-5), who showed a greater benefit from polatuzumab treatment, reducing the need for subsequent therapies in patients more prone to relapse. [Roche Data on File]
- The present analysis was performed to assess the financial consequences on subsequent treatments following the introduction of Pola-R-CHP as L1 treatment of DLBCL patients with an IPI score of 3-5, within the context of the Italian National Health-Care Service (NHS).

Methods

- Annual proportions of patients initiating subsequent lines of treatment over a 3-year horizon were estimated using a partitioned survival model with three mutually exclusive health states (Figure 1).
- Subsequent anti-lymphoma treatment data of the intention-to-treat (ITT) IPI 3-5 subgroup population were extracted from the POLARIX trial. The data included distributions and the average number of subsequent systemic treatments received after standard therapy with R-CHOP and Pola-R-CHP. [Roche Data on File]
- The costs per progression event were determined by the frequency and type of subsequent therapies received, including autologous stem cell transplant (ASCT), salvage therapies, immunochemotherapies, and Chimeric Antigen Receptor T (CAR-T) cell therapies (Table 1).
- All costs, reported in Euro-2024, were evaluated from the perspective of Italian NHS. Costs associated with drugs and administration are based on the all-inclusive DRG 410 fee. Ex-factory net prices with confidential rebates (maximum hospital tender price) are applied for drugs when accounted for in addition to the administration fee. For CAR-T therapy, apheresis procedures, conditioning therapies, and in-hospital infusions are accounted for, all valued using DRG 481. Additionally, the cost of ASCT is assessed using the specific DRG 481 fee, including collection and administration procedures. [2,3,4]



Disease evolution was simulated through a mixture cure rate model, a statistical method that supports evidence of a proportion of patients achieving long-term remission – 75% for Pola-R-CHP and 64% for R-CHOP. [1]

These estimates were based on progression-free survival (PFS) data from the POLARIX trial, which was assumed to follow a mixture distribution of generalized gamma and age-adjusted background mortality. [5]

Figure 1 – Cumulative proportions of patients initiating subsequent lines of treatment over a 3-year time horizon

Description	Pola-R-CHP	R-CHOP	
Mean number of subsequent treatments per patient	2.26	3.13	
Post-progression treatment			**Cost per event**
– **Salvage therapy (with rituximab)**	18%	11%	2,630 €
– **Salvage therapy (chemotherapy)**	8%	9%	1,015 €
– **Autologous stem cell transplant**	14%	13%	37,495 €
– **Chemotherapy**	12%	19%	866 €
– **Rituximab regimen (w/ chemotherapy)**	40%	36%	2,077 €
– **Polatuzumab regimen (w/ BR)**	2%	3%	25,054 €
– **Rituximab monotherapy**	1%	0%	3,230 €
– **CAR-T**	5%	8%	241,545 €

Table 1 – Subsequent treatment details (frequency and cost per event).

Results

- Patients receiving Pola-R-CHP were less likely to require subsequent therapy than patients receiving R-CHOP (2.26 vs 3.13, respectively), with an estimated average cost savings of €12.2K per patient in the first year.
- Over a 3-year time horizon, approximately 5,000 patients with an IPI score of 3-5 are expected to initiate systemic treatment for DLBCL, with more than 70% receiving Pola-R-CHP regimen.
- In comparison to a scenario in which all patients receive the standard R-CHOP treatment, the introduction of Pola-R-CHP is projected to reduce the number of subsequent treatments by approximately 1,800 (Figure 2).
- Pola-R-CHP is projected to result in estimated **total cost savings of around 60 million euros** for the Italian NHS (Figure 3).

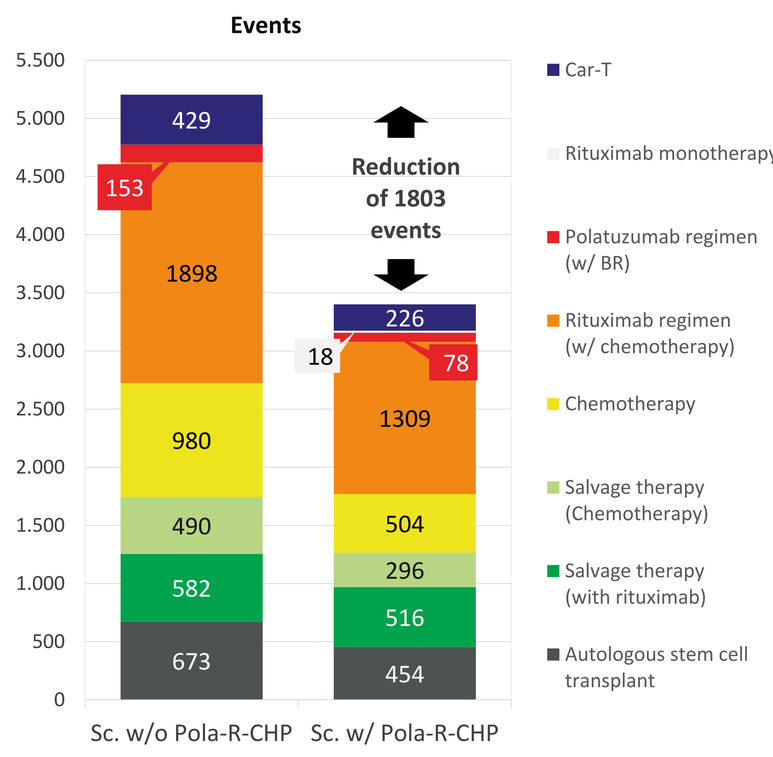


Figure 2 – number of subsequent treatment events without (w/o) and with (w/) Pola-R-CHP

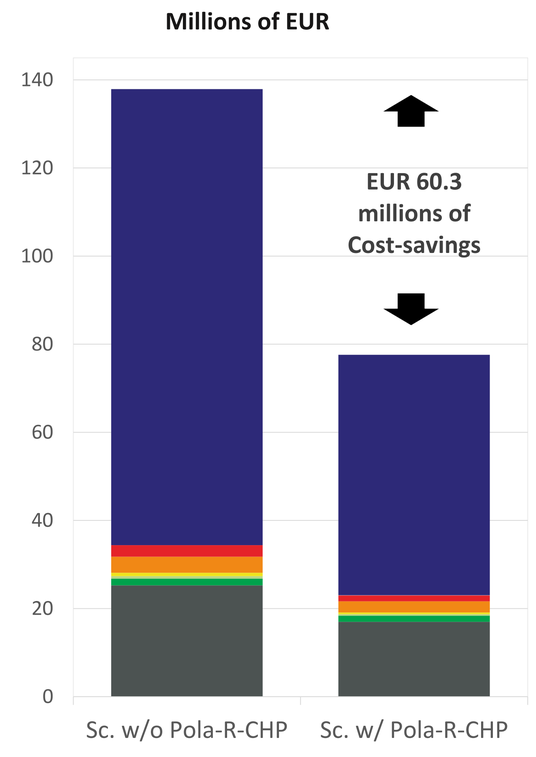


Figure 3 – costs of subsequent treatment without (w/o) and with (w/) Pola-R-CHP

5,007 DLBCL IPI 3-5 patients expected to initiate a 1L therapy over 3-year

3,675 patients are expected to receive polatuzumab regimen over 3-year

34.7% reduction in subsequent treatments with the introduction of the polatuzumab regimen

€ 60.3 Millions of cost-savings due to reduction of subsequent treatments associated with polatuzumab regimen in 1L

Conclusions

- The **reduction in subsequent treatments** may potentially mitigate the initial higher expenditure associated **with the use of Pola-R-CHP** instead of R-CHOP in the L1 treatment for high-risk DLBCL patients.
- This can lead to a **significant cost decrease in the subsequent anti-lymphoma treatments** for the Italian NHS.

Bibliography

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