

Abstract: PB3430

Title: SUSTAINED COST-EFFECTIVENESS OF BREXUCABTAGENE AUTOLEUCEL FOR THE TREATMENT OF RELAPSED/REFRACTORY B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA IN PATIENTS AGED 26 YEARS OR OLDER IN ITALY

Abstract Type: Publication Only

Topic: Ethics and health economics

Background:

Despite currently available treatments, the prognosis for adults with relapsed/refractory B-cell acute lymphoblastic leukemia (R/R B-ALL) remains poor, highlighting the need for new therapeutic strategies. Brexucabtagene autoleucel (BREXU-CEL) was approved for the treatment of R/R B-ALL by the European Medicines Agency (EMA) in September 2022, and assessed as cost-effective by HTA agencies in various countries, including NICE in the United Kingdom.

Aims:

To estimate the cost-effectiveness from an Italian payer perspective of BREXU-CEL versus blinatumomab (BLIN), inotuzumab ozogamicin (INO), and salvage chemotherapy (CHEMO) for patients aged 26 years or older with R/R B-ALL.

Methods:

A partitioned-survival model comprising the health states 'event-free survival' (EFS), 'progressed disease' (PD) and 'death' was used to estimate health outcomes and costs over a lifetime horizon for each treatment considered. Efficacy and safety data were obtained from ZUMA-3 for BREXU-CEL (Phase 1 + 2 mITT population, median follow-up 37.3 months), TOWER for BLIN, and INO-VATE for INO and CHEMO. For BREXU-CEL we used data from patients aged 26 years or older, in line with the EMA label. Matching-adjusted indirect comparisons were conducted to adjust BREXU-CEL event free survival (EFS) and overall survival (OS) for differences between the ZUMA-3, TOWER, and INO-VATE study populations. Patients in the BREXU-CEL arm not receiving infusion were assigned EFS and OS as observed for the comparator treatments. Standard parametric models were used to extrapolate EFS and OS for all treatments. Utilities for the EFS and PD health state were derived from ZUMA-3. Patients alive at 3 years were assigned utilities equal to general population and general population mortality, to which a standardized mortality ratio of 1.09 was applied. Projected OS in the lifetime horizon assumed in this analysis is shown in Figure 1. Unit costs were obtained from public databases or the literature. List prices were used for all treatments. Costs and health outcomes were discounted at 3% annually.

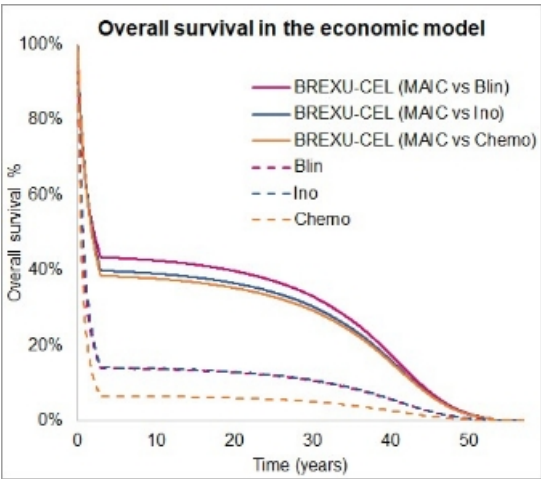
Results:

Compared with BLIN, INO, and CHEMO, BREXU-CEL resulted in 6.29, 5.47, and 6.92 life-years gained, and 4.73, 4.01, and 5.08 quality-adjusted life-years (QALYs) gained per patient, respectively. The incremental costs of BREXU-CEL versus BLIN, INO, and CHEMO were €67,226, €92,539, and €291,638, respectively. BREXU-CEL's incremental cost-effectiveness ratios were €14,227/QALY versus BLIN, €23,087/QALY versus INO, and €57,414/QALY versus CHEMO. Results were robust to scenario analyses performed. At list price, BREXU-CEL had a 99.8%, 94%, and 20% probability of being cost-effective compared to BLIN, INO, and CHEMO at a willingness-to-pay threshold of €50,000 per QALY gained, respectively.

Summary/Conclusion:

BREXU-CEL substantially improves the life-expectancy of patients with R/R B-ALL compared to BLIN, INO, and CHEMO and added life-years are spent in good health. Moreover, BREXU-CEL is cost-effective at list price versus BLIN and INO and borderline cost-effective versus CHEMO in Italy at a willingness-to-pay threshold of €50,000/QALY.

Figure 1: Overall survival in the economic model



Keywords: Gene therapy, ALL, Relapsed acute lymphoblastic leukemia, Cost effectiveness