

Real-Life Costs of Patients With Diffuse Large B-Cell Lymphoma (DLBCL) Treated by CAR T-Cells in France Between 2018 and 2020 (EpiCART Study)

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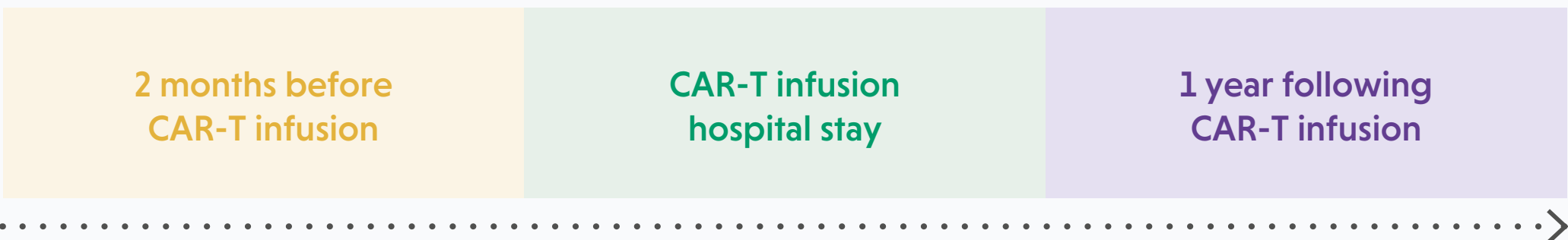
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INTRODUCTION

CAR-T-cell therapies have revolutionized the treatment of lymphoma, including DLBCL. The objective of the EpiCART study was to assess pathways and all costs of CAR-T-cell-treated DLBCL patients in France, in order to provide more data regarding their care pathways (pre and post infusion).

METHODS

EpiCART is an observational retrospective study performed using the French Nationwide claims database (SNDS), which includes both community and hospital data. All adult patients treated with CAR-T-cells for DLBCL between January 1, 2018, and December 31, 2020, were included. All costs (CAR-T and non-CAR-T related) for DLBCL patients treated with CAR-T cells were collected between 2 months before and 1 year after CAR-T infusion (excluding the cost of CAR-T treatment). These costs were estimated in €2022 from the National Health Insurance's point of view, using a Bang-Tsiatis model to take into account censored data¹. Overall mean costs per patient were presented for the whole cohort, including patients who did not have any cost for consumption of resource. The mean cost per patient of the CAR-T infusion hospital stay costs were broken down by year to take account of the first few years of introduction of CAR-Ts, a treatment that alters the organization of medical departments, thus generating potential additional costs at the start of activity. Costs of adverse events were defined as the costs of stays in Intensive Care Units during the year following the discharge of CAR-T-cell infusion. Overall survival (OS) was estimated using the Kaplan Meier method from the end of CAR-T-cells infusion stay.



CONCLUSION

From 2018 to 2020, our analysis estimated that the total mean cost with both community and hospital data of a CAR-T treated patient from 2 months prior to infusion and one year after infusion was €90,957 (excluding the cost of CAR-T). This cost represents a total cost of care (CAR-T and non-CAR-T related) that is in line with other severe hemopathies. The 1 year post infusion costs were also in line with long-term costs for non-CAR-T patients after second line treatment.

Due to the nature of the database, costs unrelated to CAR-T care pathway such as subsequent treatment costs, comorbidities costs, or end of life costs were included within this analysis (most notably within the 2 months before and the year after CAR-T infusion discharge). It thus most likely led to overestimating the specific cost of CAR-T care pathway and made it difficult to compare those results with other international data. However, another team presented comparable results at the French Hematology Society's Congress in 2022 using the French hospital discharge database and a similar methodology with an average all-cause hospitalization cost of €22,390 (2,202) for the year following CAR-T infusion discharge.

Survival results are in line with the French real-world data from the DESCAR-T registry².

These results reflect French real-world practices at the beginning of the use of CAR-T-cells and provide new information on healthcare consumptions outside of the CAR-T-cell stay. However, further research elements are needed with regards to the potential comparability of long-term costs post CAR-T infusion with patients that did not receive such treatment.

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2. Bachy E, Le Gouill S, Di Blasi R, Sesques P, Manson G, Cartron G, et al. A real-world comparison of tisagenlecleucel and axicabtagene ciloleucel CAR T cells in relapsed or refractory diffuse large B cell lymphoma. *Nat Med*. 2022 Oct;28(10):2145–54.



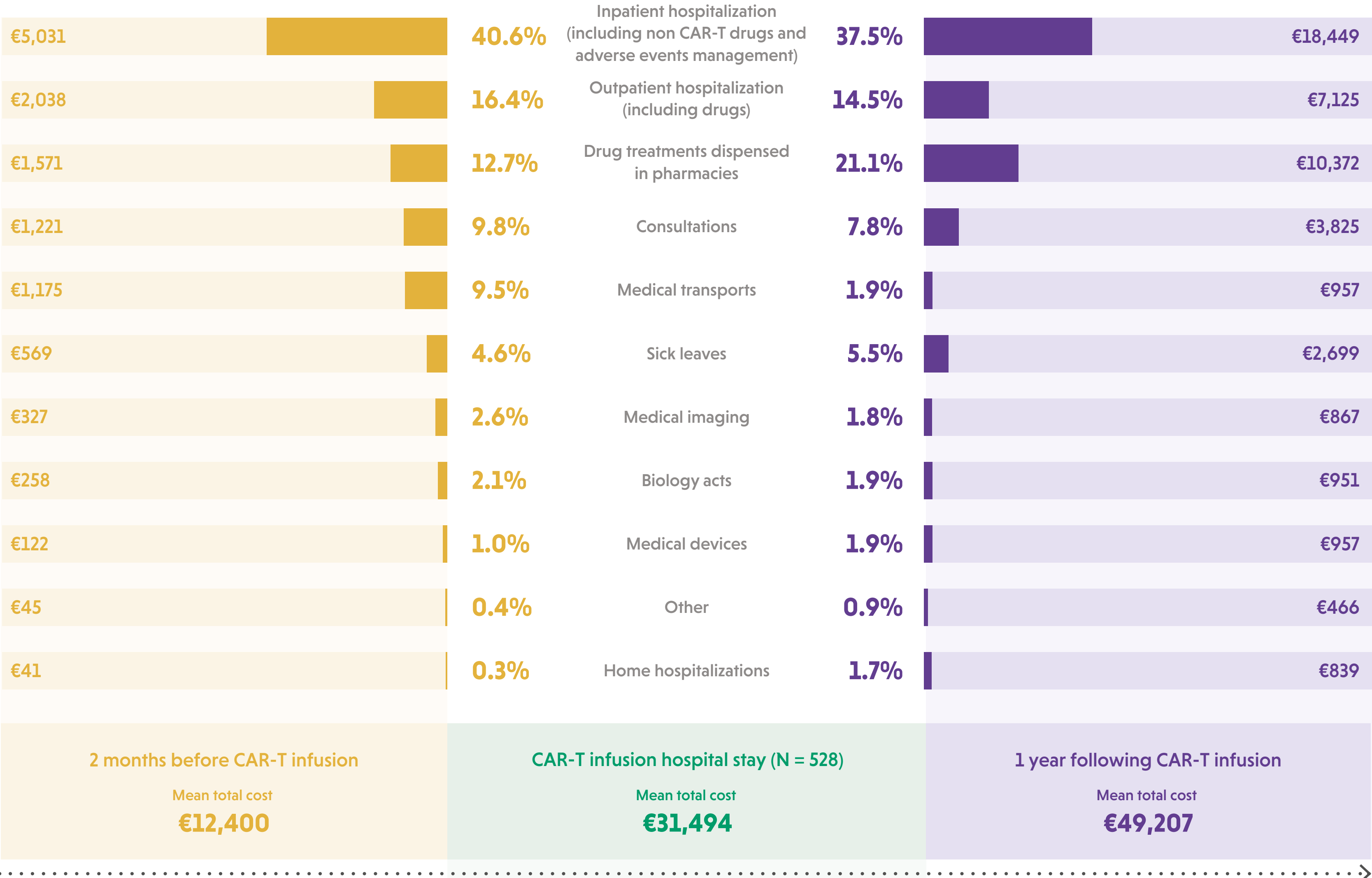
RESULTS

PATIENTS' CHARACTERISTICS

Over the study period, 528 DLBCL patients received a CAR-T-cell treatment (axicabtagene ciloleucel or tisagenlecleucel). Median (interquartile range) age was 63.0 (16.2) years and patients were mainly men (61%). The mean (SD) duration of a CAR-T infusion hospital stay was 25.3 (13.3) days. The infusion occurred 7.0 (4.1) days on average (SD) after the beginning of the stay.

COSTS PER PATIENT

From 2018 to 2020, the mean cost of the total treatment pathway was €90,957 per patient. The mean cost per patient per year of the CAR-T infusion hospital stay decreased from €85,660 for the 2018 patients to €27,909 for the 2020 patients. The mean monthly cost per patient during the two months before CAR-T infusion was €6,200 and it was €4,101 for the year following CAR-T infusion. The cost of adverse events (ICU stay), which are included in the inpatient hospitalization costs in the figure below, occurring in 157 patients was €25,594 (34,849) per patient on average (SD).



Detail per year for the CAR-T stay average cost per patient (min ; max)
2018 (N = 31) €85,660 (70,461 ; 113482)
2019 (N = 206) €28,406 (643 ; 85,185)
2020 (N = 291) €27,909 (0 ; 203,736)

SURVIVAL FROM TIME OF CAR-T INFUSION DISCHARGE

With a median (IQR) follow-up duration of 6.5 (9.3) months, the 6-months OS was 74.1% (95%CI: 69.8-77.9%) and the 1-year OS was 59.8% (95%CI: 54.4-64.7%). Median OS was not reached during the study period.

