data. DESCAR-T was approved by the French authorities in 2019 and is the reference registry for CAR-T cells reimbursement by French health authorities. Data (patients' characteristics, safety, efficacy and long-term outcome…) from time of medical decision to treat with CAR-T cells to up to 15 years after CAR-T cells infusion are registered in DESCAR-T. Several complementary registries are also linked to DESCAR-T database (immune-monitoring, blood and tumor biobanking -CeVi-CART, imagery platform). We present the first analyses regarding DLBCL patients' characteristics and outcome registered in DESCAR-T.

Methods: All patients with DLBCL registered in DESCAR-T were eligible for the present study. All patients gave informent consent befor DESCAR-T registration.

Results: To date (Jan 2021), 14 out of 24 CAR-T cells accredited French centers have registered patients in DESCAR-T (other centers are being opened). The first patient was registered in December 2019. At the time of the analysis, 537 DLBCL patients have been registered. CAR-T cells product has been ordered for 517 patients of whom 463 have been infused. At the time of registration in DESCAR-T, median age was 63.0 years (range, 53-70), 40.6% of patients were > 65yrs and 3.5% > 75yrs. Lymphoma subtypes were DLBCL (91%), PMBL (3%), and high-grade B-cell lymphoma (2%). Among patients for whom CAR-T cells have been ordered (n = 517), 313 (60.5%) were male, 76 (14.7%) had a PS≥2, 377 (72.9%) had an advanced disease (stage III or IV), 330 (63.8%) had elevated LDH. Median number of prior lines of treatment was 3 (range, 2 – 3) and 21% of patients have been previously transplanted. Median time from CAR-T cells order to infusion was 50 days [range, 43-60]. Median time from leukapheresis to CAR-T infusion was 41.1 days (range, 36-48). Overall, 65% of patients received Axi-cel and 35% received Tisa-acel. Response was available in 419 infused patients. Best ORR was 70.2% (65.5% - 74.5%). At D30 after CAR-T cell infusion, 157 (38%) patients achieved CR and 112 (27%) achieved PR. Among the 157 patients who achieved a CR at D30, 96 (61%) remained in CR at D90. The median follow-up calculated from CAR-T cells order was 7.4 months (range, 5.8-7.9) and 6m [range, 5.5-6.2] from CAR-T infusion. The median OS calculated from time of CAR-T infusion is 12.7m [range, 10.6-NA].

Summary/Conclusion: This first analysis from DESCAR-T registry seems to confirm CAR-T cells efficacy in real life. Updated results will be presented at the meeting. Overall, 537 DLBCL patients have been registered in DESCAR-T in 13 months. This demonstrates that CAR-T cells therapy has become a key treatment for R/R DLBCL. In 2021, DESCAR-T will be extended to MCL and multiple myeloma.

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Keywords: Aggressive B-cell non-Hodgkin lymphoma, Cellular therapies

Conflicts of interests pertinent to the abstract

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Consultant or advisory role: Gilead; Novartis

085 | EFFICACY AND SAFETY OF TISAGENLECLEUCEL (TISA-CEL) IN ADULT PATIENTS (PTS) WITH RELAPSED/REFRACTORY FOLLICULAR LYMPHOMA (R/R FL): PRIMARY ANALYSIS OF THE PHASE 2 ELARA TRIAL

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Introduction: Most pts with r/r FL experience multiple relapses and progressively worse clinical outcomes with each line of therapy, underlining a need for novel therapies. Tisa-cel has demonstrated durable responses and manageable safety in adult pts with r/r diffuse large B-cell lymphoma. Here we report the primary analysis of ELARA (NCT03568461), an international, single-arm phase 2 trial of tisa-cel in adult pts with r/r FL.

Methods: Eligible pts (≥18 y) had r/r FL (grades [Gr] 1-3A) after ≥2 lines of therapy or had failed autologous stem cell transplant. Bridging therapy was permitted followed by disease assessment prior to tisa-cel infusion. Pts received tisa-cel ($0.6\text{-}6\times10^8$ CAR+ viable T cells) after lymphodepleting chemotherapy. The primary endpoint was complete response rate (CRR) by central review per Lugano 2014 criteria. Secondary endpoints included overall response rate (ORR), duration of response (DOR), progression-free survival (PFS),

overall survival (OS), safety, and cellular kinetics. Predefined primary analysis occurred when ≥90 treated pts had ≥6 mo of follow-up.

Results: As of September 28, 2020, 98 pts were enrolled and 97 received tisa-cel (median follow-up, 10.6 mo). At study entry, median age among treated pts was 57 y (range, 29-73), 85% had stage III-IV disease, 60% had a FLIPI score ≥3, 65% had bulky disease, and 42% had LDH > upper limit of normal. The median number of prior therapies was 4 (range, 2-13); 78% of pts were refractory to their last treatment (76% to any ≥2 prior regimens) and 60% progressed within 2 y of initial anti-CD20–containing treatment. Of 94 pts evaluable for efficacy, the CRR was 66% (95% CI, 56-75) and the ORR was 86% (95% CI, 78-92). CRRs/ORRs were comparable among key high-risk subgroups. Estimated DOR (CR) and PFS rates at 6 mo were 94% (95% CI, 82-98) and 76% (95% CI, 65-84), respectively. Of 97 pts evaluable for safety, 65% experienced Gr ≥3 adverse events within 8 weeks post-infusion, most commonly neutropenia (28%) and anemia (13%). Any-grade cytokine release syndrome (per Lee scale) occurred in 49% of pts (Gr ≥3, 0%). Any-grade neurological events (per CTCAE v4.03) occurred in 9% of pts (Gr 3, 0%; Gr 4, 1 pt and recovered). Three pts died from progressive disease.

Cellular kinetic parameters for tisa-cel were estimated using transgene levels (by qPCR) in peripheral blood. C_{max} and $AUC_{0\text{-}28d}$ were similar between responders (CR or partial response) and non-responders (stable or progressive disease). Maximum transgene levels were reached by a median of 10 days in responders and 12.9 days in non-responders; transgene persistence was detected up to 370 days and 187 days, respectively.

Conclusions: These data demonstrate the efficacy and acceptable safety of tisa-cel in pts with r/r FL, including high-risk pts after multiple lines of prior therapy, and suggest that tisa-cel may be a promising therapy for pts with r/r FL.

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Conflicts of interests pertinent to the abstract

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086 | TRANSCEND CLL 004: PHASE 1 COHORT OF LISOCABTAGENE MARALEUCEL (LISO-CEL) COMBINED WITH IBRUTINIB (IBR) FOR PATIENTS (PTS) WITH R/R CLL/SLL

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Introduction: Liso-cel is a CD19-directed CAR T cell product administered at equal target doses of $CD8^+$ and $CD4^+$ CAR^+ T cells. We report updated safety and efficacy from the investigational phase 1 liso-cel + ibr dose escalation cohort of the phase 1/2 TRANSCEND CLL 004 study (NCT03331198) in pts with R/R CLL/SLL.

Methods: Eligible pts with R/R CLL/SLL met ≥1 of the following: progressed on ibr by enrollment; had high-risk features and were on ibr for ≥6 months (mo) with <CR; had a *BTK* or *PLCγ2* gene mutation; had previous ibr and no contraindication to reinitiating it. At enrollment, pts started or continued ibr 420 mg/day through leukapheresis and for 90 days after liso-cel infusion. Pts received liso-cel infusion at 50×10^6 (dose level [DL]1) or 100×10^6 (DL2) CAR^+ T cells after 3 days of lymphodepletion with fludarabine/cyclophosphamide. Primary objectives for phase 1 were safety and determining the recommended dose of liso-cel when given with ibr. Antitumor activity (ORR [CR + CR with incomplete blood count recovery (CRi)] + PR) and cellular kinetics were exploratory objectives.

Results: At data cutoff, 19 pts received liso-cel (DL1, n = 4; DL2, n = 15) with ibr. Median age was 61 (range, 50–77) years, and 18 pts (95%) had high-risk cytogenetics (del[17p], n = 8; *TP53* mutation, n = 6; complex karyotype [≥3 chromosomal aberrations], n = 8). Pts had a median of 4 (range, 1–10) prior therapies. All pts were R/R to prior ibr; 11 pts (58%) had disease refractory to ibr and venetoclax. Two pts were treated as outpatients. No dose-limiting toxicities were observed at either DL. Most pts (n = 15, 79%) experienced ibr-related TEAEs; 7 (37%) were grade ≥3. Ibr-related TEAEs in 2 and 4 pts led to dose reductions and discontinuations, respectively (Table). No grade 5 TEAEs occurred. Cytokine release syndrome (CRS) was reported in 14 pts (74%), with 1 grade 3 event; 6 (32%) reported neurological events (NEs; 3 grade ≥3). Eight pts (42%) received tocilizumab and/or corticosteroids to manage CRS and/or NEs. Preliminary cellular kinetics data showed a median time to peak liso-cel expansion of 11 days (IQR, 10–15). Of 19 pts with ≥1-mo follow-up, 18 (95%) had an objective response; 12 (63%) had a CR/CRi. One pt (5%) had stable disease. Responses were achieved by Day 30 postinfusion, and 16 of 18 pts (89%) have ongoing responses at ≥6 mo. Of 19 pts evaluable for MRD, 17 (89%) achieved undetectable MRD in