

# Health-related quality of life in patients with hematologic malignancies treated with chimeric antigen receptor T-cell therapy: review and current progress

Emmanuelle Tchernonog,<sup>1</sup> Aline Moignet,<sup>2</sup> Amélie Anota,<sup>3</sup> Sophie Bernard,<sup>4</sup> Guy Bouguet,<sup>5</sup> Fanny Colin,<sup>6</sup> Catherine Rioufol,<sup>7</sup> Loïc Ysebaert<sup>8,9</sup> and Emmanuel Gyan<sup>10,11</sup>

<sup>1</sup>Hematology Department, University Hospital, Montpellier; <sup>2</sup>Hematology Department, Pontchaillou University Hospital, Rennes; <sup>3</sup>Department of Clinical Research and Innovation & Department of Human and Social Sciences, Centre Léon Bérard, Lyon; <sup>4</sup>Hematology Department, Centre Hospitalier de la Côte Basque, Bayonne; <sup>5</sup>Ensemble Leucémie Lymphomes Espoir (ELLYE), Paris; <sup>6</sup>Hematology Department, Pontchaillou University Hospital, Rennes; <sup>7</sup>Clinical Oncology Pharmacy Department, University Lyon I, EA 3738 CICLY, University Hospital, Lyon; <sup>8</sup>Toulouse Cancer Research Center (CRCT), INSERM, CNRS, Toulouse III Paul Sabatier University, Toulouse; <sup>9</sup>Clinical Hematology, IUCT Oncopole, Toulouse University Hospital, Toulouse; <sup>10</sup>Hematology and Cell Therapy Department, University Hospital, Tours and <sup>11</sup>Clinical Investigation Center, INSERM U1415, University Hospital, Tours, France

**Correspondence:** L. Ysebaert  
[Ysebaert.Loic@iuct-oncopole.fr](mailto:Ysebaert.Loic@iuct-oncopole.fr)

**Received:** October 19, 2023.  
**Accepted:** February 29, 2024.  
**Early view:** March 7, 2024.

<https://doi.org/10.3324/haematol.2022.282363>

©2024 Ferrata Storti Foundation

Published under a CC BY-NC license



## Supplemental Data

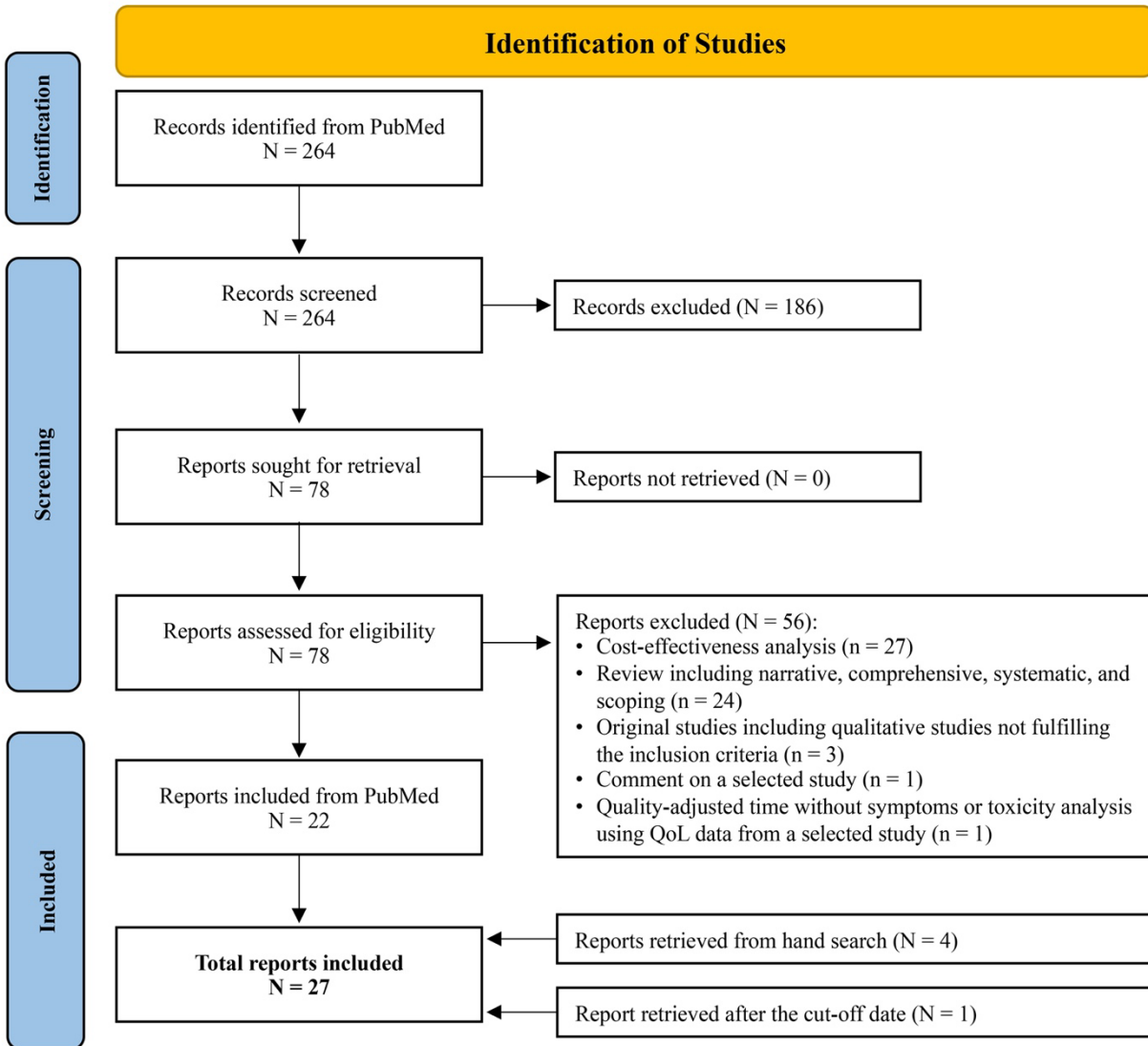
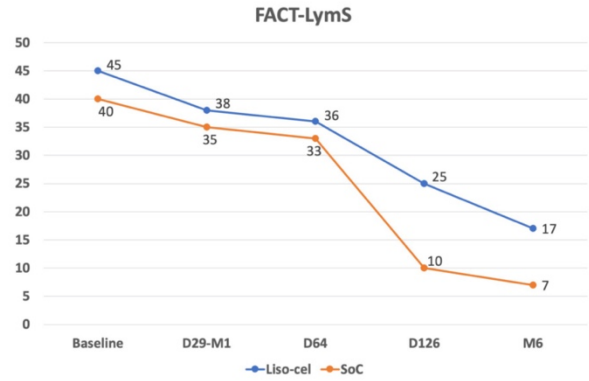
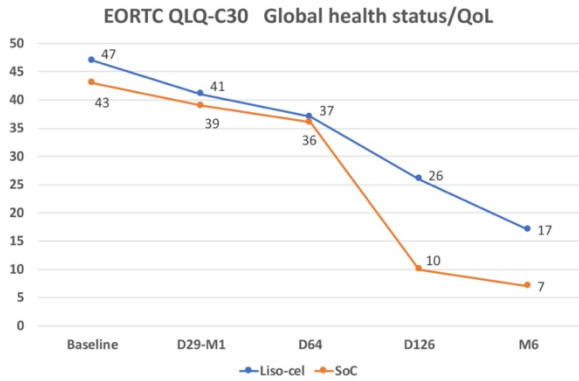
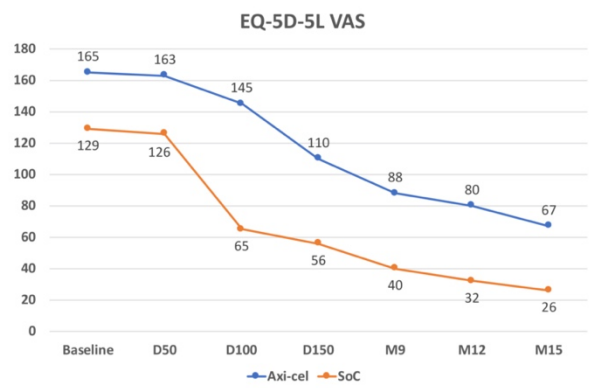
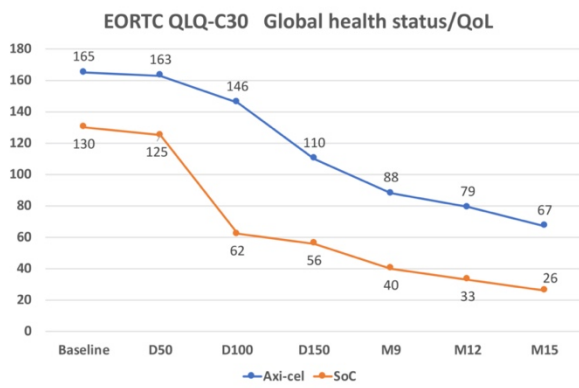


Figure S1. PRISMA chart – Identification of studies via PubMed and hand search

**TRANSFORM**



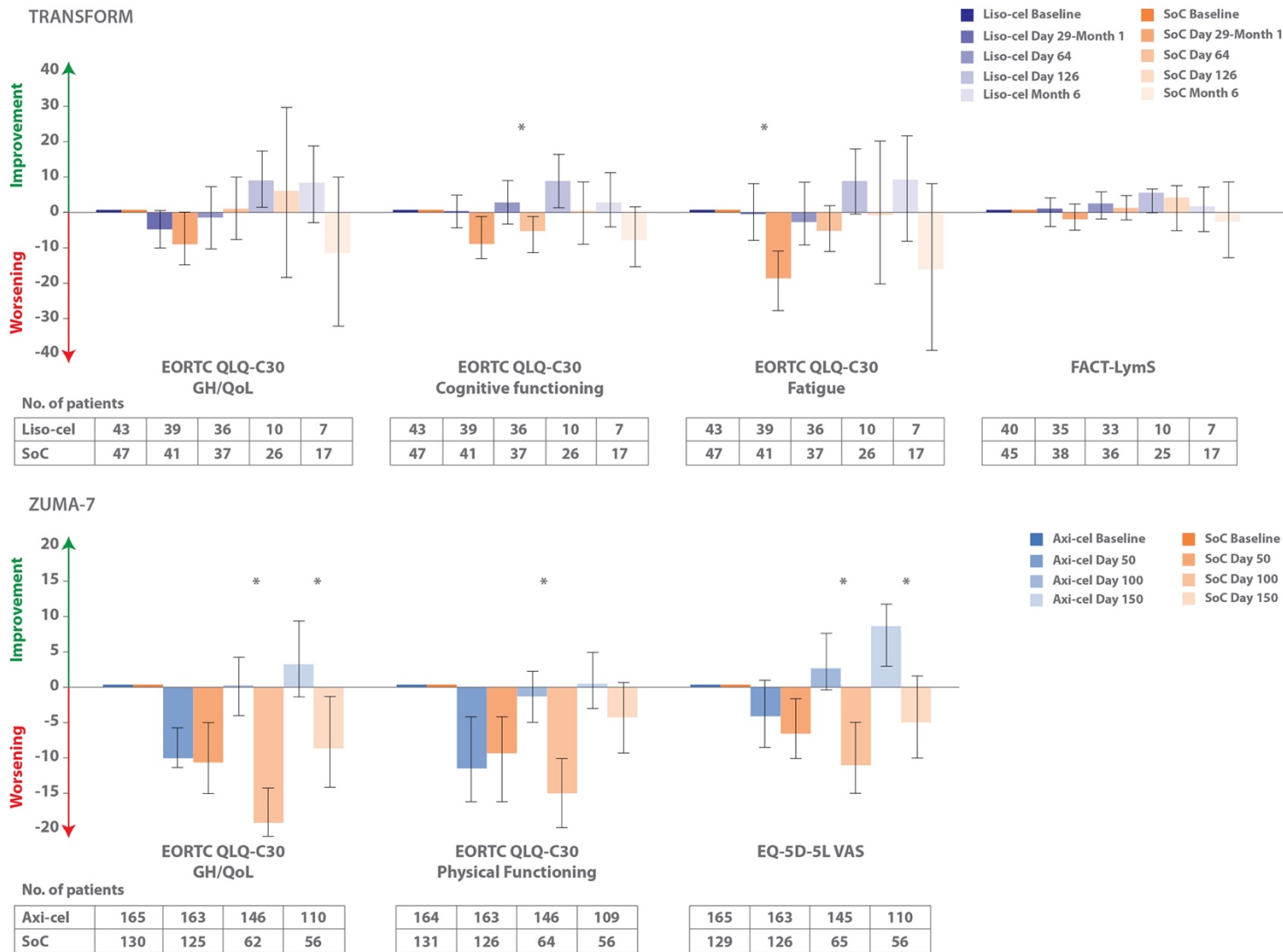
**ZUMA-7**



**Figure S2. Number of patients reporting health-related quality of life data at different timepoints for TRANSFORM<sup>33</sup> and ZUMA-7<sup>18</sup> studies**

Abbreviations: Axi-cel, axicabtagene ciloleucel; D, day; EORTC QLQ-C30, European Organization for Research and Treatment of Cancer Quality of Life Questionnaire; EQ-5D-5L, EuroQol 5-Dimension 5-Level; FACT-LymS, Functional Assessment of Cancer Therapy-Lymphoma sub-scale; Liso-cel, lisocabtagene maraleucel; M, month; QoL; quality of life; SoC, standard of care; VAS, visual analogue scale.

Adapted from: Abramson et al<sup>33</sup> 2022 and Elsayy et al<sup>18</sup> 2022.



**Figure S3. Results of the TRANSFORM<sup>33</sup> and ZUMA-7<sup>18</sup> studies: Change from baseline in selected domains/symptoms of the EORTC QLQ-C30 (both studies), FACT-Lym (TRANSFORM), and EQ-5D-5L VAS (ZUMA-7).**

Data presented as mean change (95% confidence interval). The scores of the EORTC QLQ-C30 fatigue bar graph have been mirrored so that an increase in the positive score would represent improvement and the negative scores represent worsening.

Abbreviations: Axi-cel, axicabtagene ciloleucel; EORTC QLQ-C30, European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-C30; EQ-5D-5L, European Quality of Life Five Dimension Five Level; FACT-LymS, Functional Assessment of Cancer Therapy-Lymphoma sub-scale; GH, global health status; Liso-cel, lisocabtagene maraleucel; QoL; quality of life; SoC, standard of care; VAS, visual analogue scale.

Adapted from: Abramson et al<sup>33</sup> 2022 and Elsayy et al<sup>18</sup> 2022.