memo (2020) 13:3–4
https://doi.org/10.1007/s12254-020-00576-2

memo
magazine of european medical oncology

CAR(-T)s are on the road

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Received: 9 January 2020 / Accepted: 10 January 2020

CAR-T cell therapies (chimeric antigen receptor-T cell therapies) are increasingly becoming part of clinical practice since the approval of two compounds tisagenlecleucel (Kymriah ®—Novartis, Morris Plains, NJ, USA) and axicabtagene ciloleucel (Yescarta ®—Gilead/kite, Santa Monica, CA, USA) in 2017 in the US market and a bit later in 2018 in Europe and other parts of the world, as well. Starting with r/r pALL (relapsed/refractory B-cell precursor acute lymphoblastic leukemia) up to the age of 25 years and young adults (Kymriah) and continuing with r/r DLBCL (diffuse large B cell lymphoma) (Kymriah and Yescarta), these two indications are currently the main focus of commercial CAR-T cell therapy. However, new compounds for mentioned indications and new compounds for new indications like for multiple myeloma are attracting more and more attention.

In this issue of *MEMO*, two articles address the question of the importance of CAR-T cell therapy as approved therapeutic options besides current standards in pALL and r/r DLBCL. Hopfinger et al. address the issue of having an additional treatment option in r/r DLBCL, a disease stadium with a very dismal prognosis [1]. But, besides the outstanding results of long-term follow-ups of both pivotal trials (JULIET [NCT02445248], ZUMA-1 [NCT02348216]), the new upcoming topics of a financial burden and demanding logistics due to CAR-T cell therapy as a "realistic" treatment option are also discussed.

Greinix et al. provided a comprehensive overview of the results and future aspects of ALL treatment in the context of CAR-T cell therapy (universal CAR-Ts serving as "off the shelf" ready-to-use therapeutic agents or dual targeting concepts like CD19 and CD22 together), and its standing in the current treatment algorithm [2].

Two additional articles describe future aspects and current results of interesting approaches of CAR-T cell therapies in the setting of multiple myeloma and AML without any current approval at the moment. Gunsilius et al. summarized some exciting results of diverse constructs targeting BCMA (B-cell maturation antigen) and CD19 – to mention a few – without forgetting recently published or presented results of very similar compounds like bites (bispecific T-cell engagers) in the treatment of r/r multiple myeloma after the third line of therapy [3].

Finally, Rudzki et al. focused on the importance of CAR-T cell therapy in r/r AML (acute myeloid leukemia), illustrating current results and providing an overview of the most promising cellular strategies to handle r/r AML with CAR-T cell- or TCR-approaches [4].

At the end of this CAR-T article-series, the position paper, "Ensuring Center Quality, Proper Patient Selection and Fair Access to Chimeric Antigen Receptor T-cell Therapy: Position Statement of the Austrian CAR-T Cell Network" released by the Austrian CAR-T platform, presents a brief overview of the broad consensus of all CAR-T centers in Austria focusing on the definition of a CAR-T center, proper patient selection and fair access to CAR-T cell therapy [5].

I hope that you will find these selected contributions of high interest and enjoy reading this collection of articles. Also, I am very appreciative of the willingness by the mentioned authors to cooperate in making this series of CART articles possible. I would like to express my gratitude to the contributing authors for their dedication and work.

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Conflict of interest J.D. Rudzki declares that he has received honoraria and speaker's fee from BMS, Roche, MSD, AstraZeneca, Amgen, Gilead-kite, Novartis and served as advisor for BMS, Roche, MSD, AstraZeneca, Amgen, Gilead-kite, Novartis and Celgene.

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