P1445 MYTCELL®: AN INTERACTIVE SMARTPHONE APPLICATION FOR CARS AND BITES INCREASES
GUIDELINE ACCESSIBILITY AND REDUCES TIME TO APPLY EVIDENCE-BASED PATIENT CARE

Topic: 25. Gene therapy, cellular immunotherapy and vaccination - Clinical

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Background:

The Bispecific T-cell engager (BiTE) Blinatumomab and CD19-specific Chimeric Antigen Receptor (CAR) T-cell products are approved for the treatment of relapsed and refractory B-cell neoplasms. Several ongoing clinical trials and further development of different drug formats will lead to a substantially increased number of eligible patients and a broader application in the near future. However, the complex pre-treatment workflow, particularly with regard to timelines of apheresis, bridging therapies, and CAR T-cell transfusion, and accompanying toxicities still pose a challenge for health care professionals.

Aims:

To support the optimal management of these patients, we developed an interactive smartphone application (myTcell®), which provides guidelines on pre-treatment logistics and toxicity management in an actionable format.

Methods:

We initiated a multi-step content development process researching guidelines consented by the ASTCT, SITC, NCCN and EBMT as well as the prescribing information. Findings were integrated into an information platform to provide diagnostic and therapeutic recommendations as well as algorithms for interactive toxicity grading tools. We could successfully implement an app (myTcell®) guiding health workers in a disease- and product-specific step by step process through the clinical workflow of CAR and BiTE therapy. This includes recommendations for patient screening and stopping rules prior to leukapheresis and CAR T-cell transfusion. Upon entering relevant clinical data for grading of CRS, ICANS and HLH, interactive tools display toxicity grade and grade-specific management. Further, myTcell® assists with the diagnosis and treatment of pancytopenia and infections. The app includes an overview of important publications with direct links to respective abstracts to support evidence-based decision-making. A prototype was validated at five German treatment centers through a questionnaire, which measured the advantage of the app compared to common clinical practice.

Results:

38 physicians validated the app prototype in a real-world setting of CAR T-cells or BiTEs at five German treatment centers with an excellent overall rating (University Hospitals of LMU Munich, Cologne, Göttingen, Erlangen, Tübingen). 78.9% of the users most valued the content about toxicity management. In addition, 63.2% reported to dominantly use the interactive tools and calculators to assess severity of toxicities and to instantly receive grade-specific management recommendations. Most of the users agreed, that the interactive tools improved toxicity management (94.7%) and saved time during their clinical practice (81.6%). Based on these results, myTcell® has been certified as a European medicinal product class I and has been released in the app stores and for desktop application (www.myTcell.de) on July 15, 2021. Since then, myTcell® has achieved a great visibility with 3790 pages...
views and up to 267 users of five different European countries. The release for USA and China is expected for 2022 and will come with further interactive tools estimating toxicity risk such as the Hematotox and the EASIX Score.

**Summary/Conclusion:**

myTcell® is a smartphone app supporting the application of CAR T cells and BiTEs. Health care professionals validated feasibility and in particular appreciated fast and easy assessment and management of toxicities. Thus, myTcell® has the potential to improve guideline adherence and accelerate broader and safer application of CARs and BiTEs.