METHODOLOGICAL ANALYSIS OF PHARMACOECONOMIC STUDIES IN CAR-T: A SYSTEMATIC REVIEW

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BACKGROUND AND IMPORTANCE

Chimeric antigen receptor T-cell therapies (CAR-T) are based on the ex-vivo modification of T-lymphocytes for the expression of an antigen receptor that provides the specific union with tumour cells for their consequent destruction. CAR-T introduction into clinical practices present challenges from a clinical and economic perspective. Traditional pharmacoeconomic studies may be limited in their ability to act as a valid decision-making tool in the access management of CAR-T and alternative methodological approaches may have to be considered.

OBJECTIVE

Elaboration of a systematic review of CAR-T pharmacoeconomic studies to determine if traditional pharmacoeconomic studies represent a valid tool for decision-making in the access management of CAR-T.

METHODOLOGY

Quality evaluation by:
- CHEERS
- Drummond

Included:
- Published articles and accepted manuscripts written in English or Spanish until 15 August 2021

RESULTS

The most studied CAR-T drug was tisagenlecleucel for diffuse large B-cell lymphoma in adults, with a median cost per QALY of 291924,51€. CAR-T therapies represent a clinically and potentially cost-effective therapeutic alternative. The quality of the identified studies was good according to the quality assessment scores.

CONCLUSION

Cost-effectiveness of CAR-T therapies depends on its long-term results, the duration of the study conducted, and the cure rate used of the clinical study. Because of that, pharmacoeconomic studies in CAR-T exhibit certain limitations and could not be robust tools for decision making solely based on their findings. There is a need to develop pharmacoeconomic methods that can avoid the uncertainty of many assumptions and incorporate more data, including real-life data.

ABBREVIATIONS
- QALYs: Quality-Adjusted Life-Year
- MCL Adult Brexu-cel: Results of brexucabtagene autoleucel for mantle cell lymphoma in adult population
- ALL Pediatric Tisa-cel: Results of tisagenlecleucel for diffuse acute lymphoblastic leukaemia in pediatric population
- DLBCL Adult Tisa-cel: Results of tisagenlecleucel for diffuse large B-cell lymphoma in adult population
- ALL Adult Axi-cel: Results of axicabtagene ciloleucel for diffuse large B-cell lymphoma in adult population
- MCL Adult Brexu-cel: Results of brexucabtagene autoleucel for mantle cell lymphoma in adult population