

Frailty and Outcomes With CAR-T Cell Therapy and Bispecific Antibodies in Hematologic Malignancies: A Scoping Review

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BACKGROUND

Chimeric antigen receptor T-cell (CAR-T) therapy and bispecific antibodies have transformed outcomes in relapsed/refractory hematologic malignancies, yet pivotal trials excluded patients with poor performance status or comorbidities. As real-world use expands, frailty's impact on eligibility, toxicity, and outcomes remains poorly characterized.

OBJECTIVE

To synthesize the evidence on frailty and its association with eligibility, toxicity, and outcomes for CAR-T cell therapy and bispecific antibody therapy in hematologic malignancies.

METHODS

Searched PubMed, Embase, Cochrane, Google Scholar, and ClinicalTrials.gov through April 2026.

Terms: frailty, geriatric assessment, CAR-T, bispecific antibody, hematologic malignancy.

Included studies reporting frailty or performance status in patients receiving either therapy.

727 records identified → 19 studies included (see PRISMA).

CONCLUSIONS

Frailty predicts inferior CAR-T and bispecific efficacy but not worse toxicity.

Formal geriatric assessment helps identify and mitigate ICANS risk and enables individualized treatment decisions. Prospective frailty-integrated trials are needed.

RESULTS

