Study highlights the importance of infection prevention after CAR T-cell therapy

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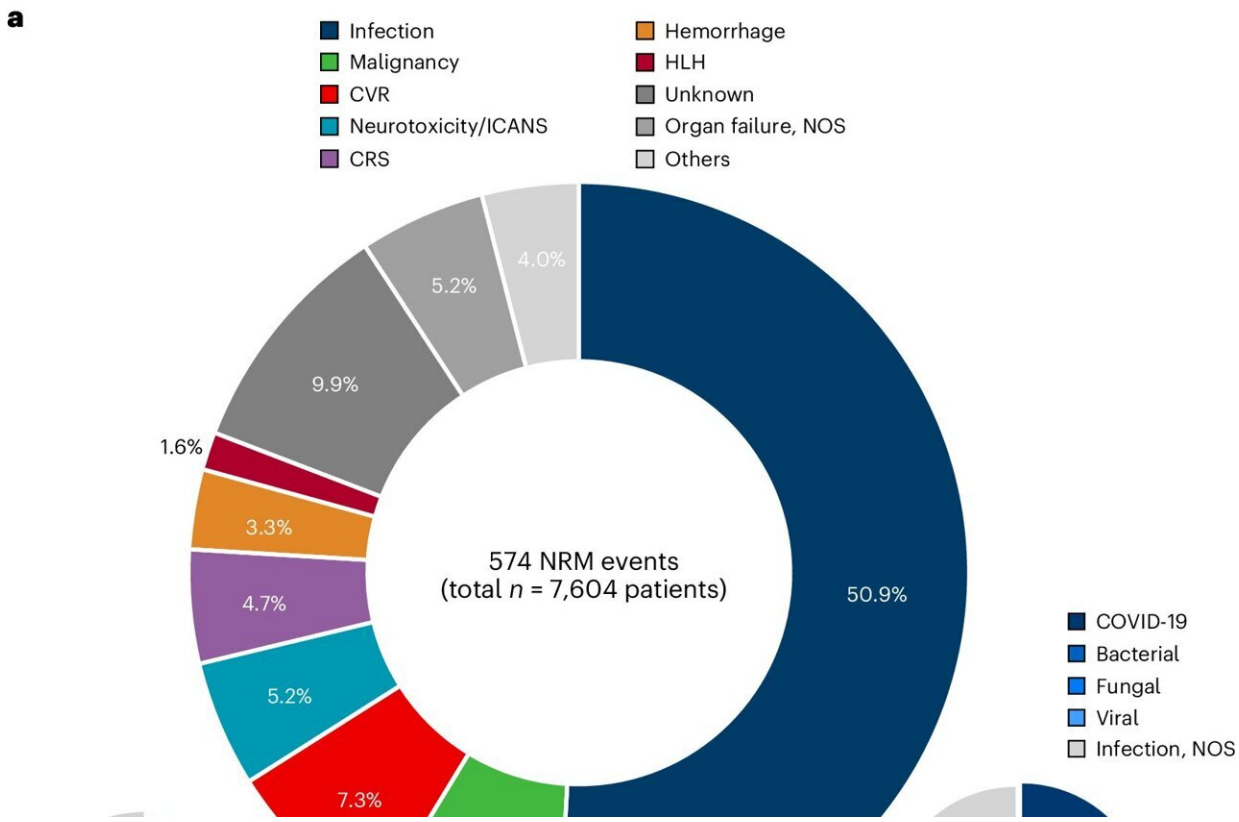

Distribution of causes of nonrelapse deaths across treatment settings and disease entities. Credit: *Nature Medicine* (2024). DOI: 10.1038/s41591-024-03084-6

Researchers at Dana-Farber Cancer Institute, in collaboration with colleagues from Memorial Sloan Kettering Cancer Center in New York

(Dr. Kai Rejeski) and the LMU Hospital in Munich, Germany (Dr. Tobias Tix), have found that infections were the main driver of non-relapse mortality in patients receiving chimeric antigen receptor (CAR) T-cell therapy.

The team analyzed reports from 7,604 patients across 18 clinical trials and 28 real world studies. Infections accounted for half of all reported non-relapse related deaths. Other cancers were the second most common driver at 7.8%. Cardiovascular or respiratory events were third, at 7.3%. Side effects specific to CAR T-cell therapy, such as cytokine release syndrome and neurotoxicity, played a minor role.

Importantly, the researchers found non-relapse mortality to be associated with the underlying disease entity and certain CAR T-cell products, even when accounting for key study features.

Much attention has been paid to the risks associated with CAR T-cell therapy and managing CAR T-cell therapy specific side effects, such as cytokine release syndrome and neurotoxicity. This study reveals that infections play a critical role in non-relapse-related death and suggests a pressing need for comprehensive, evidence-based guidelines that inform infection prevention and management after CAR T-cell therapy.

The findings are published in the journal *Nature Medicine*.

More information: David M. Cordas dos Santos et al, A systematic review and meta-analysis of nonrelapse mortality after CAR T cell therapy, *Nature Medicine* (2024). DOI: 10.1038/s41591-024-03084-6. www.nature.com/articles/s41591-024-03084-6

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