

## RESEARCH SUMMARY

# Second-Line Tisagenlecleucel or Standard Care in Aggressive B-Cell Lymphoma

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## CLINICAL PROBLEM

Efficacious second-line treatments are needed for aggressive non-Hodgkin's lymphoma that is refractory to or relapses soon after first-line therapy. Tisagenlecleucel, an autologous anti-CD19 CAR T-cell therapy, is approved as third-line therapy for relapsed or refractory aggressive diffuse large B-cell lymphoma, but its potential benefits as second-line therapy are unclear.

## CLINICAL TRIAL

**Design:** An international, randomized, phase 3 trial compared the efficacy and safety of tisagenlecleucel with those of standard-care second-line therapies in patients with refractory or early relapsed aggressive B-cell lymphoma.

**Intervention:** 322 patients 18 years of age or older with confirmed aggressive B-cell lymphoma that was refractory to or relapsed within 12 months after first-line therapy were randomly assigned to receive tisagenlecleucel with optional bridging therapy or standard care comprising combination chemotherapy and autologous hematopoietic stem-cell transplantation in patients having a response. The primary end point was event-free survival — the time from randomization to stable or progressive disease at or after week 12 or death at any time.

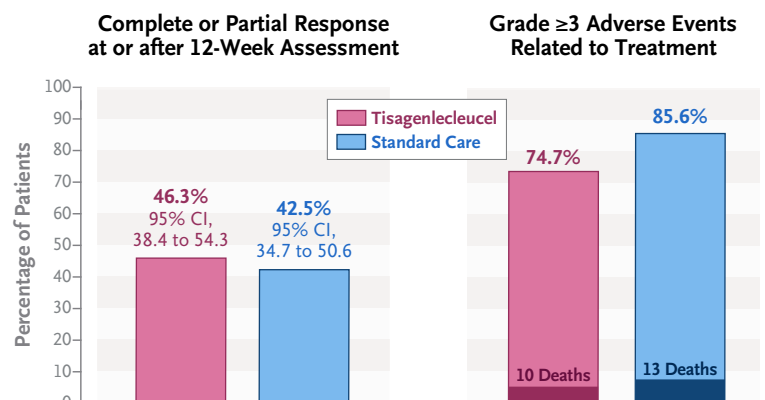
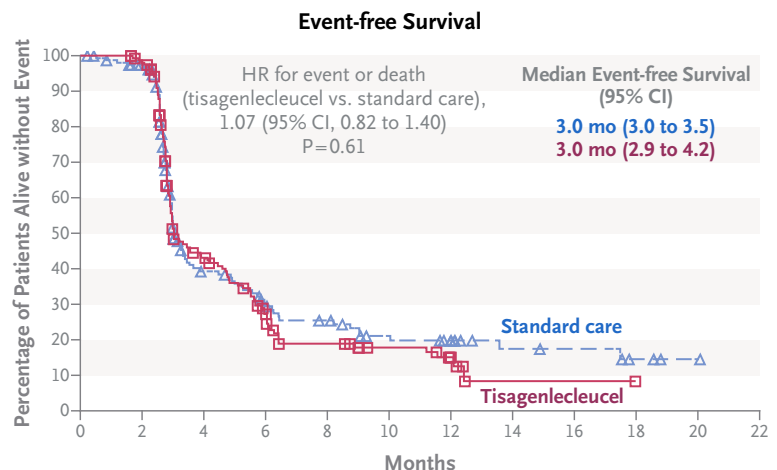
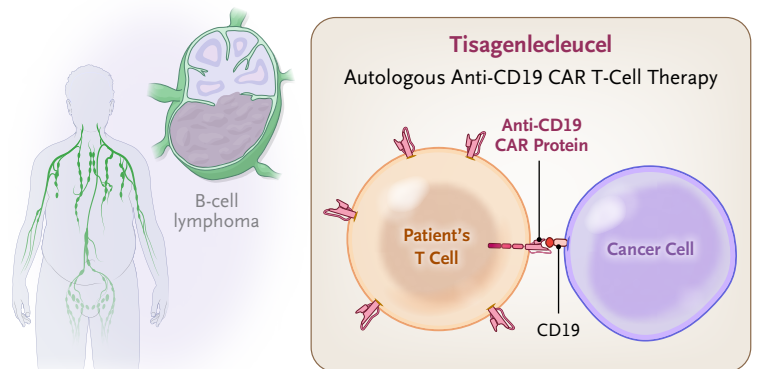
## RESULTS

**Efficacy:** Median event-free survival did not differ significantly between the two groups. Response to therapy at or after week 12 was also similar with the two regimens.

**Safety:** A large majority of each group had grade 3 or higher adverse events that were attributed to treatment. Ten patients in the tisagenlecleucel group and 13 in the standard-care group died from adverse events.

## REMAINING QUESTIONS

- What are the mechanisms of resistance to tisagenlecleucel therapy in patients who do not have a response and in those who have a response but then have a relapse?
- In patients with stable or progressive disease before tisagenlecleucel infusion, does response increase with increasing dose?



## CONCLUSIONS

Second-line tisagenlecleucel did not result in longer event-free survival than standard-care second-line therapy in patients with refractory or early relapsed aggressive B-cell lymphoma.