Writing Assignment 4

Amajah R Goode

01131321

Article summary

This article explains to us that after receiving first-line chemoimmunotherapy, patients with relapsed or refractory large B-cell lymphoma have a poor prognosis. The likelihood of responding to chemotherapy is reduced by certain characteristics of the disease, such as primary resistance, a high second-line International Prognostic Index, and double- or triple-hit genetic lesions in the tumor. High-dose chemotherapy with autologous stem-cell transplantation is not recommended for patients whose disease doesn't respond to salvage chemotherapy. Different mechanisms of action may be helpful for these patients in second-line therapies.

Testing methods

The authors conducted this trial at 77 sites worldwide. Large B-cell lymphoma patients must be at least 18 years of age and have histological confirmation. As defined by the World Health Organization 2016 classification criteria,12 a patient who had either relapsed from complete remission or was refractory to first-line treatment within 12 months of undergoing first-line chemotherapy including an anti-CD20 monoclonal antibody and anthracycline-containing regimen; patients were planning to undergo high-dose chemotherapy followed by autologous stem cell transplantation. Those with refractory disease, or those who have relapsed after first-line therapy, were referred to as refractory, while those with relapsed disease were referred to as relapsed.

Results

One hundred and eighty patients received AXI-CEL and one hundred and seventy-nine received standard care. Based on AXI-CEL therapy's superiority in terms of event-free survival, it was established that the treatment was superior to conventional therapy. Following a median follow-up of 24.9 months, the AXI-CEL group had an 8.3-month median event-free survival rate, while the standard-care group had a 2.0-month median event-free survival rate; 41% and 16%, respectively, had 24-month median event-free survival rates. Among the patients in the AXI-CEL group, 83% responded to treatment, while 50% responded to standard care. Based on an interim analysis, the AXI-CEL group had a survival rate of 61% at 2 years while the standard-care group had a survival rate of 52%. 91% of those who received AXI-CEL experienced adverse events of grade 3 or higher, compared to 83% of those who received standard care. Cytokine release syndrome and neurologic events occurred in 21% and 6% of patients receiving AXI-CEL, respectively. Neurologic events or cytokine release syndrome did not result in any deaths.

References

Locke, F. L., Miklos, D. B., Jacobson, C. A., Perales, M., Kersten, M. J., Oluwole, O. O., Ghobadi, A., Rapoport, A. P., McGuirk, J. P., Pagel, J. M., Munoz, J., Farooq, U., Van Meerten, T., Reagan, P. M., Sureda, A., Flinn, I. W., Vandenberghe, P., Song, K. W., Dickinson, M. H., . . . Westin, J. R. (2022). Axicabtagene Ciloleucel as Second-Line Therapy for Large B-Cell Lymphoma. The New England Journal of Medicine, 386(7), 640–654. <https://doi.org/10.1056/nejmoa2116133>