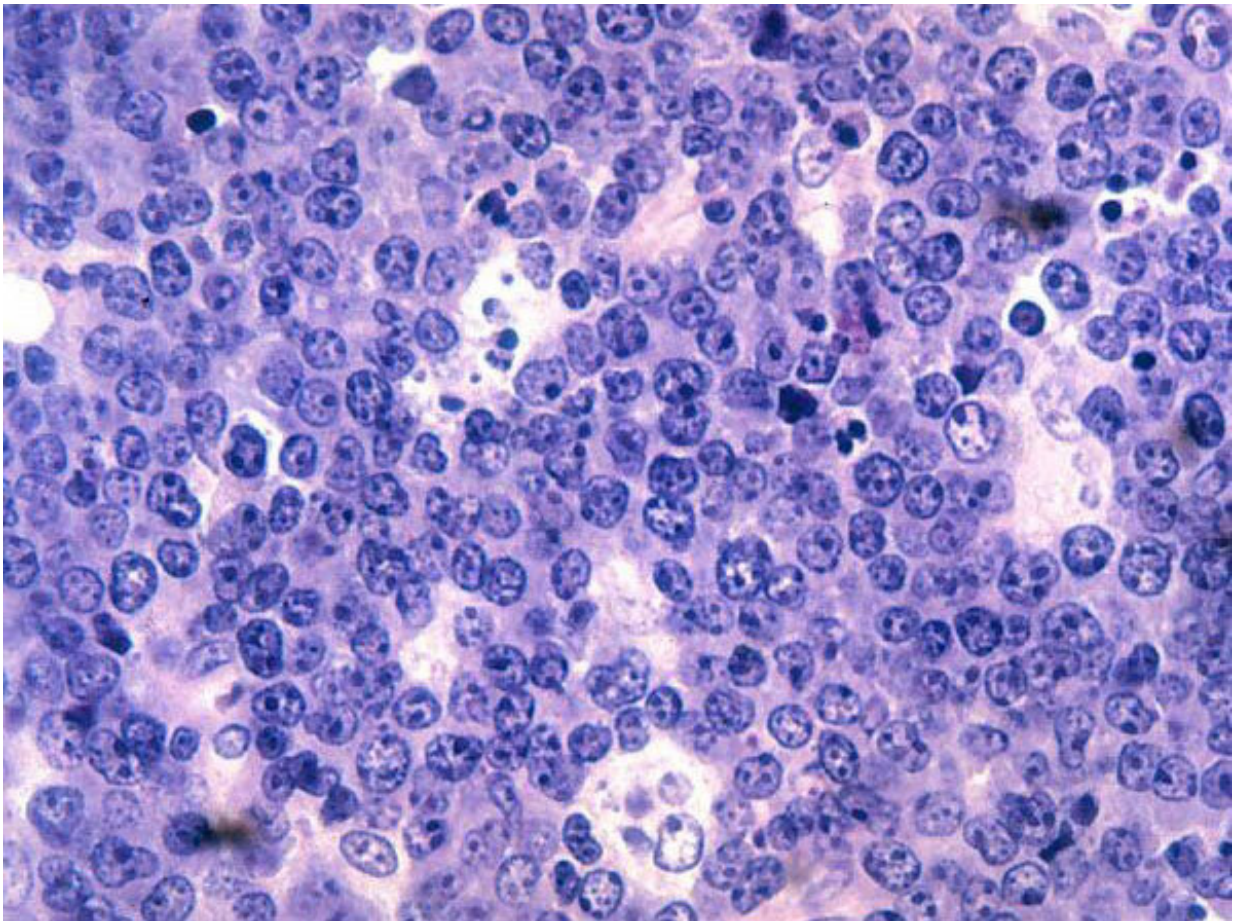


Study confirms effective, less toxic treatment option for adults with Burkitt lymphoma

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Malignant B-cell lymphocytes seen in Burkitt lymphoma, stained with hematoxylin and eosin (H&E) stain. Credit: Dr. Louis M. Staudt, National Cancer Institute

Study confirms effective, less toxic alternative to standard treatment for adults with Burkitt lymphoma

In a new study, an alternative treatment regimen that is less toxic than standard dose-intensive [chemotherapy](#) was found to be highly effective for adults with Burkitt [lymphoma](#) across all age groups and independent of HIV status. In addition to being better tolerated, the regimen, called dose-adjusted (DA) EPOCH-R, is already an option for diffuse large B-cell lymphomas and can be administered in an outpatient setting.

The findings were published May 26, 2020, in the *Journal of Clinical Oncology*. The study was led by researchers in the Center for Cancer Research at the National Cancer Institute (NCI), part of the National Institutes of Health, and sponsored by NCI's Cancer Therapy Evaluation Program. It was conducted at 22 research centers across the country. The DA-EPOCH-R regimen was originally developed by NCI researchers led by Wyndham Wilson, M.D., Ph.D., at the NIH Clinical Center in Bethesda, Maryland.

"We knew Burkitt lymphoma is curable with dose-intensive chemotherapy, but that treatment can be acutely toxic for adult patients," said Mark Roschewski, M.D., of NCI's Lymphoid Malignancies Branch, who was one of the lead authors on the study. "With this finding, we not only have a potentially curative treatment option for these patients that's less toxic, but one that appears effective for most adults, including [elderly patients](#) and those with HIV and other comorbidities who might not be able to receive [standard treatment](#)."

Burkitt lymphoma is a rare but aggressive B-cell lymphoma that is more common in children than adults. The dose-intensive chemotherapy that's been developed to cure Burkitt lymphoma in [pediatric patients](#) is much better tolerated by children than adults, who can have severe side effects, especially if they are older or have other serious health conditions, such

as being infected with HIV. People living with HIV/AIDS have an [increased risk](#) for Burkitt lymphoma.

NCI researchers have tested several approaches to determine whether less toxic treatments could still be effective for Burkitt lymphoma in adults. In an earlier pilot study with 30 [adult patients](#) treated only at NCI, the DA-EPOCH-R chemotherapy regimen was effective. The DA-EPOCH-R regimen is tailored to an individual patient's ability to tolerate chemotherapy. The regimen infuses chemotherapy over 96 hours for each cycle, and "dose-adjusted" means that later cycles can use higher doses of chemotherapy if it is well tolerated. This is compared to "dose-intensive" chemotherapy, which uses very high doses in all patients from the beginning.

To confirm these findings, the researchers conducted a larger, multicenter phase 2 study, enrolling 113 patients identified as having low- or high-risk disease, based on characteristics such as tumor bulk and performance status. The median age was 49 years, and 62% were 40 years or older. At a median follow-up of almost 5 years, the researchers calculated that the 4-year rate of event-free survival was 84.5%, meaning that percentage of patients had not seen any sign of their cancer's return. Overall survival was 87%. For low-risk patients, event-free survival was 100%, and for high-risk patients it was 82%. The treatment was effective across age groups, including patients in their 70s and 80s, and regardless of HIV status. The treatment was well-tolerated with a relatively low number of patients experiencing the [severe side effects](#) commonly associated with dose-intensive chemotherapy.

These findings suggest that highly dose-intensive chemotherapy may not be necessary for cure, and that carefully defined low-risk patients may be treated with limited chemotherapy. Furthermore, patients can receive EPOCH-R in an outpatient setting, an alternative to the prolonged hospitalization required to receive highly dose-intensive chemotherapy.

Five treatment-related deaths occurred in the study. The researchers found that patients in the study who had disease in the central nervous system, specifically in cerebrospinal fluid (CSF), had the highest risk of treatment-related death or treatment failure. Further studies are warranted to determine how best to treat patients with CSF involvement, the researchers said.

More information: *Journal of Clinical Oncology* (2020). [DOI: 10.1200/JCO.20.00303](https://doi.org/10.1200/JCO.20.00303)

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