

Studiengruppe – Lymphome

Sprecher: Prof. Dr. Lena Illert; Dr. Dr. Johannes Jung (TU München)

Ziele der Studiengruppe

- Verbesserung der Behandlung von Lymphompatient*innen in Bayern
- Erfassung der Behandlungsdaten von bayerischen Lymphompatient*innen in Registern
- Vernetzung der Lymphomforschung an den bayerischen Universitätsklinika mit dem Ziel der Weiterentwicklung (inter-)nationaler Studienaktivitäten

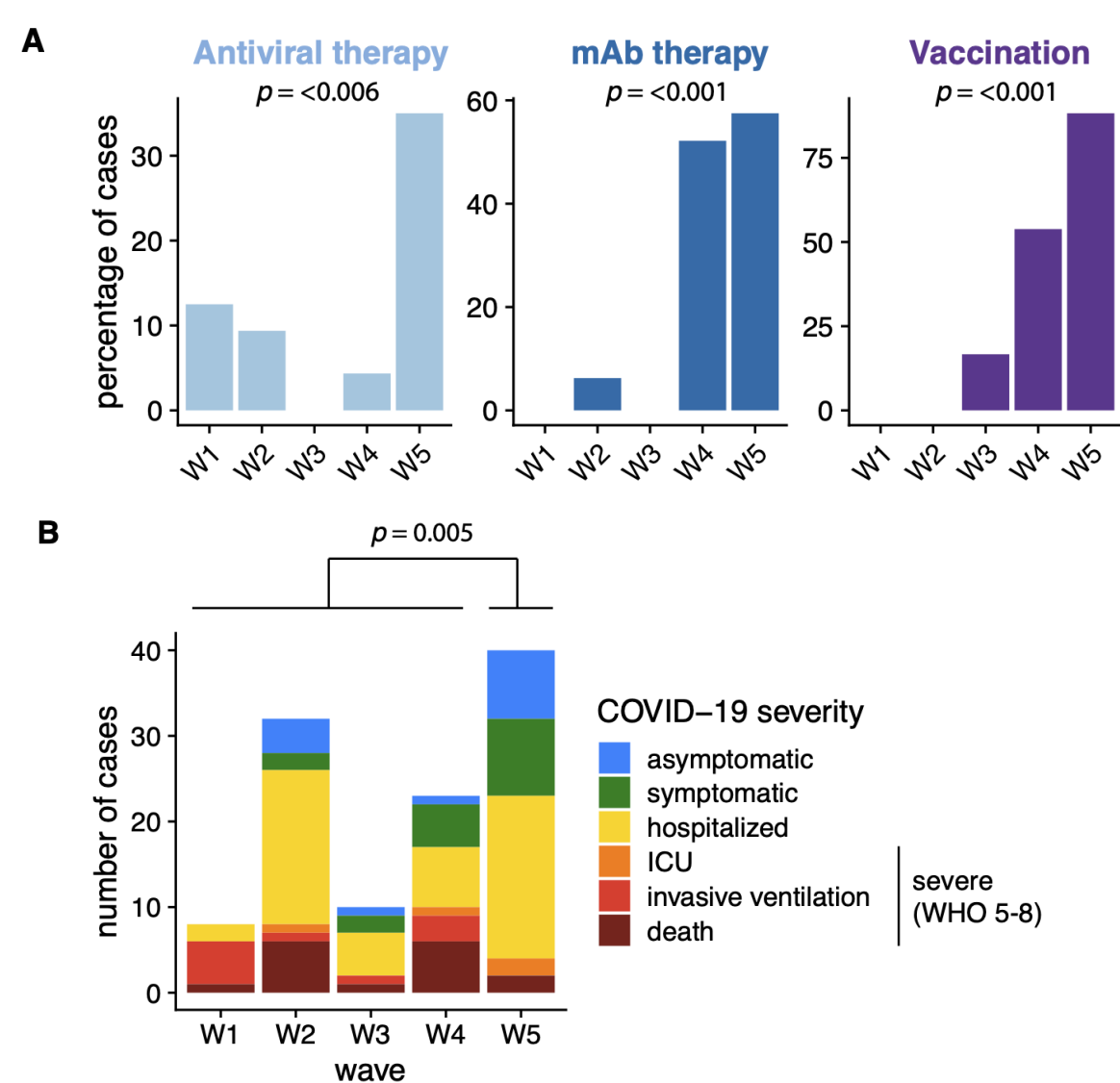
Publikationen aus der Förderperiode

Change in COVID-19 outcomes in lymphoma patients across pandemic waves: results of the COVID-19-lymphoma registry of the Bavarian Cancer Research Center (BZKF) 2020-2022

S. Forkl, F. Freudenberger, B. Jacobs, S. Einhell, K. Hirschbuehl, R. Claus, D. Hellwig, D. Mougiakakos, S. Heidegger, O. Weigert, J. C. Hellmuth

Patients with malignant lymphomas are at increased risk for severe COVID-19. In the general population, outcomes of COVID-19 have improved dramatically over time due to increasing immunity through vaccination or infection and due to improved clinical care. It is unclear whether outcomes of COVID-19 in patients with lymphoma have improved similarly over time. We performed a multi-center retrospective study of lymphoma patients with COVID-19 at five tertiary care centers of the Bavarian Cancer Research Center (BZKF) in Germany, evaluating baseline characteristics as well as COVID-19 management and outcomes across different pandemic waves from March 2020 to March 2022. Clinical management of COVID-19 as well as vaccination rates changed significantly over time. In the most recent pandemic wave (cases after December 27th 2021), 88% of lymphoma patients had been

vaccinated. Upon infection, 57% of patients were treated with monoclonal antibodies and 35% were treated with antiviral agents. Concurrent with these interventions, we observed markedly improved outcomes. Severe disease courses were significantly less frequent in the most recent pandemic wave compared to earlier pandemic waves (4/40 vs 26/73, $p=0.03$). Similarly, mortality was significantly lower in the most recent pandemic wave compared to earlier pandemic waves (2/40 vs 14/73, $p=0.039$). Although we cannot clearly distinguish the relative contribution of each intervention on the observed improvement in COVID-19 outcome, our data indicates that severity and mortality of COVID-19 in this vulnerable patient population has recently declined. Thus, our data largely supports a return to pre-pandemic treatment recommendations and protocols.



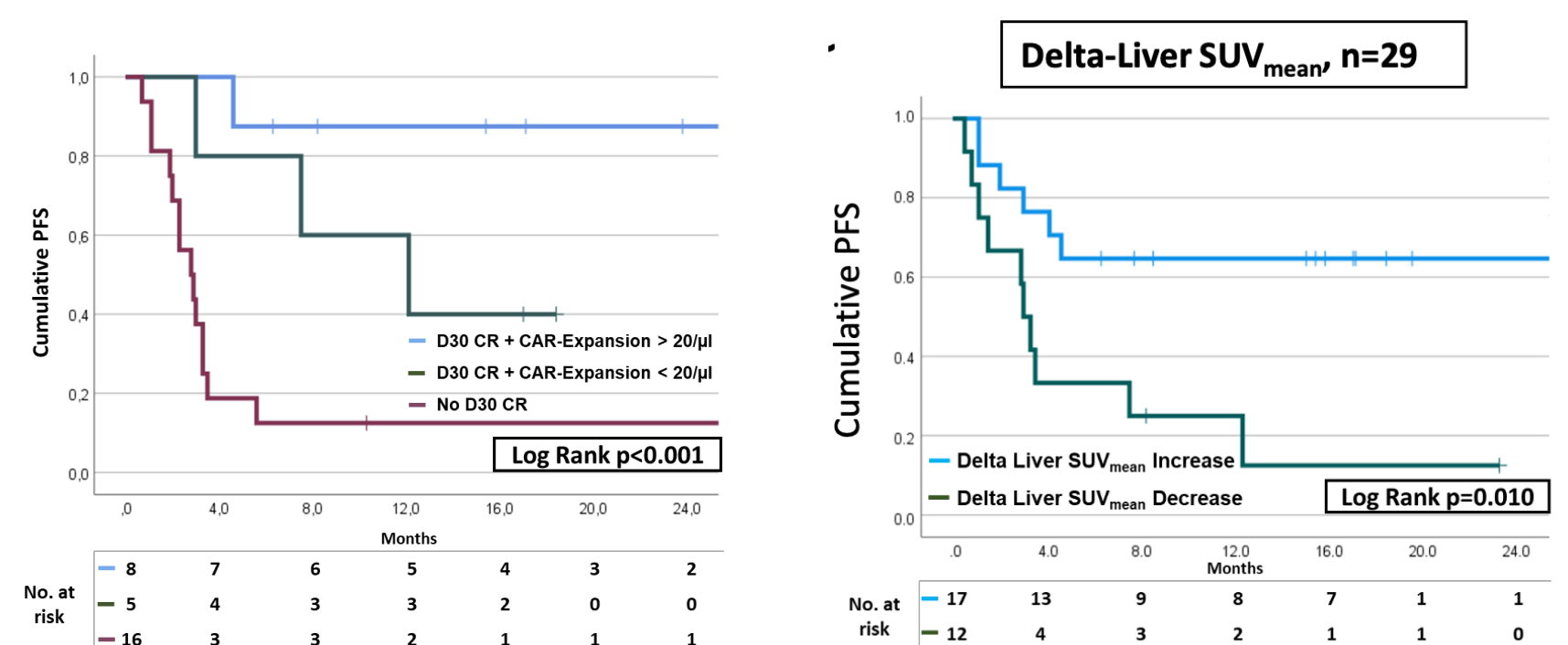
Enhancing Prognostic Value of Day30 PET/CT with liver-FDG-uptake and with CD19.CAR-T cell expansion in diffuse large B cell lymphoma

M. Beck, V. Blumenberg, V. L. Bücklein, R. A. Bundschuh, D. Harrer, K. Hirschbühl, J. Jung, W. Kunz, K. Menhart, I. Yakushev, A-L. Illert, M. Eckstein, S. Völkl, R. Claus, L. Hansmann, J. Hecker, T. Kuwert, A. Mackensen, M. Subklewe, D. Hellwig, F. Müller

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Despite revolutionary efficacy of CD19.CAR-T cell therapy (CAR-T) in relapsed/refractory aggressive B cell lymphoma, many patients still relapse mostly early. In early failure, few drugs may support CAR-T which makes reliable and early prediction of imminent relapse/refractoriness critical. Early CAR-T cell expansion or negative PET/CT-scan at day 30 (PET30-CR) predict PFS but individually fail in a relevant proportion of patients. We aimed to identify combinations of clinical and metabolic markers to improve prediction of relapse post CAR-T. Sixty-six patients with aggressive B cell lymphoma treated with CD19.CAR-T were retrospectively analyzed. Pre-CAR-T characteristics at lymphodepletion including response to bridging, LDH, total metabolic tumor volume, and the International Metabolic Prognostic Index (IMPI) predicted PFS. After infusion PET30-CR

significantly predicted longer PFS than in patients with no-CR. However, PET30 predicted 12 of 55 patients (22%) incorrectly. Adding early CAR-T expansion at days seven to ten to PET30 enhanced response prediction. In addition, an increased FDG-uptake of the liver from baseline to day30 (delta-Liver-SUV_{mean}) was an independent biomarker for response. The combination of PET30 and the newly identified delta-liver-SUV_{mean} reliably predicted patients at very low, at intermediate and at very high risk of relapse. Our novel data may guide early intervention studies aiming to enhance CAR-T particularly in the high-risk cohort which consistently relapses before month four.



Ziele- Förderperiode 2025-2026

Lymphome-Explorer (Antrag submitted)

- Systematische Analyse des BZKF-Registers zur Analyse der Therapieergebnisse bei Patient*innen mit fortgeschrittenem folliculären Lymphom ab Progress der Erkrankung
- Identifizierung innovativer PET-basierter Biomarker für das Therapieansprechen von Lymphomen
- Identifizierung von zellulären Biomarkern, die eine prädiktive Aussagekraft bezüglich des Therapieansprechens auf innovative Lymphom-Therapiekonzepte vorhersagen

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