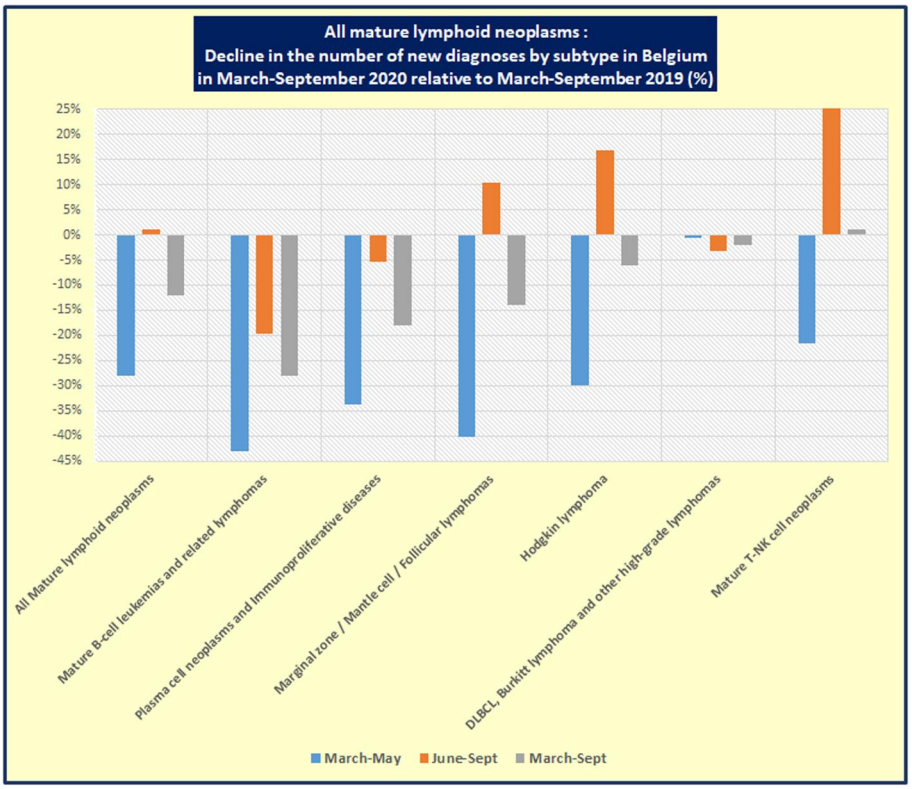


Results: After a strong decline by 28% during the first wave (March-May 2020) when compared to March-May 2019, the total diagnosis of MLN reported by the pathology network stabilized around normal values compared to 2019 levels, leading to an incomplete recovery by end September 2020 (-12%).

Variable effect by age group

Although the 2 adult age groups, 20-79 vs 80+, exhibited the same reduction of 28% during the March-May period, a partial recovery was observed for the 20-79 age group (+4%) during the following June-September period while the older population showed a persistent reduction (-9%), leading to an overall decline of 16% for the 80+ compared to 10% for the 20-79 age group.

Although subject to a low number of cases, there was no evidence of a decline in children and adolescents up to 19 years of age.

Variable effect by MLN type

Among B-cell MLN, the largest decrease by September was observed for mature B-cell leukemias (March-Sept: -28%; March-May: -43%). The decrease was smaller for plasma cell neoplasms (-18%; -34%), other indolent lymphomas (-14%; -40%) and Hodgkin lymphoma (-6%; -30%) while no evidence of decline for the more aggressive MLN (DLBCL and Burkitt lymphoma), except for 80+ (March-Sept: -13%).

The strongest rebound in diagnosis was observed for mature T/NK cell lymphomas which completely recovered to above 2019 levels (March-May: -22%, June-Sept: +25%).

Conclusion: This study with pathology data available until the end of September suggests a heterogeneous impact of the COVID19 crisis on the different types of MLN. The largest persistent declines are observed for the more indolent MLNs, while the effect was very limited for the high-grade B-cell lymphoid neoplasms, with exception of the older population.

The impact over the whole year 2020 will be presented during the meeting.

The research was funded by: Belgian Fondation Against Cancer

Keywords: Cancer Health Disparities, Pathology and Classification of Lymphomas

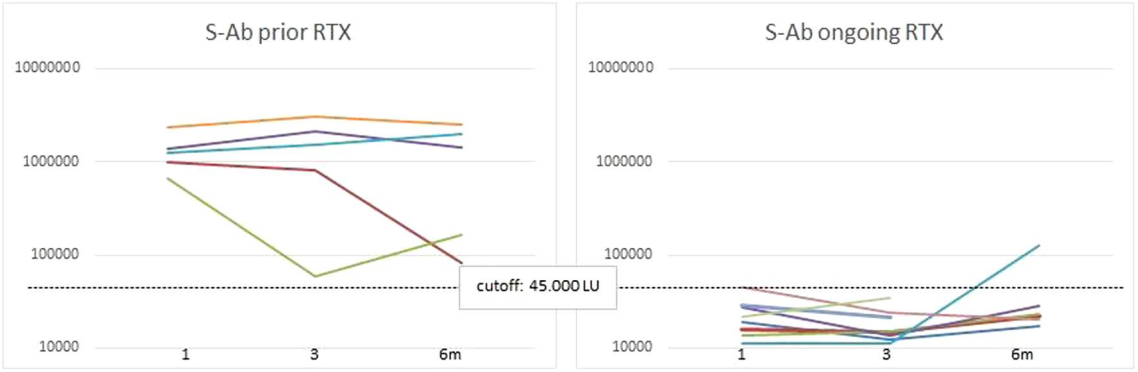
No conflicts of interests pertinent to the abstract.

284 | IMPAIRED HUMORAL RESPONSE IN LYMPHOMA PATIENTS SURVIVING THE ACUTE PHASE OF COVID-19

C. Cattaneo[1], V. Cancelli[1], C. Pagani[1], A. Ogna[1], A. Tucci[1], G. Rossi[1], V. Quaresima[2], A. Sotttini[2], K. Dobbs[3], L. D. Notarangelo[3], J. I. Cohen[4], P. D. Burbelo[5]

[1]*ASST-Spedali Civili, Hematology, Brescia, Italy*, [2]*CREA (Centro Ricerca AIL), ASST Spedali Civili di Brescia, Diagnostic Department, Brescia, Italy*, [3]*National Institute of Allergy and Infectious Diseases, National Institutes of Health, Laboratory of Clinical Immunology and Microbiology, Bethesda, Maryland, USA*, [4]*National Institute of Allergy and Infectious Diseases, National Institutes of Health, Laboratory of Infectious Diseases, Bethesda, Maryland, USA*, [5]*National Institutes of Health, National Institute of Dental and Craniofacial Research, Bethesda, Maryland, USA*

Introduction: The ability to generate an adequate and durable immune response to SARS-CoV-2 in B-cell lymphoma patients (pts) treated with immunochemotherapy is still unclear. We monitored



antibody levels during convalescence in COVID-19 survivors with lymphoma, compared to other hematologic diseases (HemD) and healthy controls (Ctrls).

Methods: Seventeen pts with non-Hodgkin lymphoma (NHL) [follicular (FL): 9; diffuse large B-cell (DLBCL): 8] surviving the acute phase of virologic-proven COVID-19 were evaluated at 3 timepoints (TP) after nasal swab negativity: +1 (TP1), +3 (TP3), and +6 (TP6) months; 28 pts affected by HemD (10 multiple myeloma, 8 chronic lymphoproliferative disorders, 10 myelodysplastic/chronic myeloproliferative syndromes) and 17 Ctrls were also evaluated at the same TP. Antibody (Ab) levels to nucleocapsid (N-Ab) and spike (S-Ab) virus proteins were measured using a highly sensitive luciferase-immunoprecipitation system (LIPS) assay. Positive levels were 125000 LU for N-Ab and 45000 LU for S-Ab.

Results: Mean N- and S-Ab levels were lower in FL and DLBCL than in other HemD pts, both at TP1 (N-Ab 1217517 vs 2205610 LU, p = 0.03; S-Ab 580444 vs 1184453 LU, p = 0.049) and at TP3 (N-Ab 850510 vs 2094487 LU p = 0.012, S-Ab 605284 vs 1230946 LU, p = 0.074). At TP6 N-Ab levels declined in all subgroups, while S-Ab levels remained stable. At TP1, compared to HemD, significantly less FL and DLCBL pts reached positive levels of N-Ab (93% vs 59% p = 0.017) and of S-Ab (86% vs 47%; P: 0.008). Positive levels of N-Ab and S-Ab were also more frequent in Ctrls (100% and 87%; p = 0.007 and 0.028) than in NHL pts. Rates of seroprotection remained lower in NHL pts also at TP3 and TP6. Rituximab (RTX) had been given to 14/17 NHL pts, either ≥6 months in 5 (prior RTX) or <6 months in 9 pts (ongoing RTX) before Covid-19 diagnosis. Ongoing RTX had a markedly negative effect on S-Ab levels since none of 9 patients seroconverted at TP1 compared to 5/5 prior RTX pts (P = 0.0005). No changes occurred in the rate of seroprotected pts also at TP3 and TP6 except for 1 ongoing RTX pt who reached protective levels at TP6 (see figure). Overall seroprotective Ab at any TP were present in 2 of 18 determinations in ongoing RTX pts, despite RTX treatment discontinuation, and in 15 of 15 determination in prior RTX pts (p = 0.0001).

Conclusions: In FL and DLC NHL pts the humoral immune response to SARS-Cov2 is less effective than in other HemD and in Ctrls. However, in seroconverted pts, S-Ab levels did not significantly decrease after 6 months. Ongoing RTX at Covid-19 was detrimental in that it did not allow to develop a humoral anti-S immune response and lack of seroconversion persisted in most pts long-term despite discontinuing RTX. These data could be considered with regard to vaccination policy, although larger studies are needed to confirm them.

Keywords: Aggressive B-cell non-Hodgkin lymphoma, Indolent non-Hodgkin lymphoma

No conflicts of interests pertinent to the abstract.

285 | MULTICENTER RETROSPECTIVE ANALYSIS OF RISK FACTORS FOR MORTALITY OF COVID-19 INFECTION IN PATIENTS WITH LYMPHOMA

J. Kořen[1], K. Steinerová[2], A. Janíková[3], D. Belada[4], B. Hájková[5], M. Krčméryová[6], V. Hanáčková[7], B. Vacková[1], P. Jindra[2], M. Osovská[3], E. Svobodová[4], L. Dlouhá[1], P. Vodička[1], M. Trněný[1]

[1]*1st Department of Medicine, Faculty of Medicine 1, Charles University, General Hospital, Prague, Czech Republic, haematology, Prague, Czech Republic,* [2]*Department of Haematology and Oncology, Charles University Hospital Pilsen, Czech Republic, haematology anf oncology, Pilsen, Czech Republic,* [3]*3Department of Internal Medicine, Hematology and Oncology, University Hospital Brno and Faculty of Medicine, Masaryk University Brno, Brno, Czech Republic, Hematology and Oncology, Brno, Czech Republic,* [4]*4th Department of Internal Medicine - Haematology, Charles University, Hospital and Faculty of Medicine, Hradec Králové, Czech Republic, haematology, Hradec Králové, Czech Republic,* [5]*Department of Haematooncology, University Hospital Ostrava, Czech Republic, haematology, Ostrava, Czech Republic,* [6]*1Internal Clinic of Hematology, University Hospital Kralovske Vinohrady, Third Faculty of Medicine, Charles University in Prague, Czech Republic, haematology, Prague, Czech Republic,* [7]*Department of Hemato-Oncology, Faculty of Medicine, Palacky University and University Hospital Olomouc, Czech Republic, haematology, Olomouc, Czech Republic*

Covid 19 infection leads to significantly higher morbidity and mortality among lymphoma patients (pts.) compared to immunocompetent population. The majority of published data is based on the cohorts diagnosed during the spring and early autumn 2020 Covid-19 outbreak. Here we present a retrospective analysis of mortality