188P Efficacy of SARS-CoV-2 based mRNA vaccines for patients with thoracic malignancies with 6 months follow up: A prospective observational study

U. Janzic[1], K. Mohorcic[1], L. Mrak[1], M. Ivanovic[2], U. Bidovec Stojkovic[3], J. Debeljak[3], P. Korosec[3], M. Rijavec[3]

[1]Medical Oncology Department, University Clinic of Respiratory and Allergic Diseases Golnik, Golnik, Slovenia; [2]Medical Oncology Department, University Clinical Centre Maribor, Maribor, Slovenia; [3]Laboratory for Clinical Immunology and Molecular Genetics, University Clinic of Respiratory and Allergic Diseases Golnik, Golnik, Slovenia

Background: Vaccination against SARS-CoV-2 in patients (pts) with thoracic malignancies is crucial since they are at high risk of having severe COVID-19 disease course. Still, data on efficacy of vaccination in this pt population are scarce.

Methods: Prospective observational study of pts with solid cancers on active anticancer treatment (chemotherapy, immunotherapy with immune checkpoint inhibitors (ICI) or targeted therapy (TT)) that received mRNA-based SARS-CoV-2 vaccination was performed. Pts were sampled before, 2-3 weeks after the first, 2-3 weeks after the second dose, 3 and 6 months after the complete primary course of vaccination. Detection of anti-SARS-CoV-2 S1 IgG antibodies in serum was determined with commercial ELISA assay IDK®. Samples with $\geq$ 175 ng/ml were considered positive. Here we present data on pts with thoracic malignancies.

Results: Ninety-two pts were included in the analysis. Median age at diagnosis was 63 years, 49% were female and 93% were currently receiving anticancer therapy. Pts were treated for NSCLC, SCLC and malignant pleural mesothelioma in 90%, 5% and 5%, respectively. Eighteen pts had previous exposure to COVID-19. Out of 74 COVID-19 naïve pts, seroconversion after 1st vaccination was 61%, after 2nd 96%, and seropositivity 3 and 6 months after 2nd vaccination 94% and 95%, respectively. According to treatment type, pts treated with chemotherapy, chemo + ICI, ICI alone or TT achieved seroconversion after 2nd vaccination in 100%, 83%, 96% and 100%, and mostly maintained positive levels of anti-SARS-CoV-2 S1 IgG antibodies 6 months after 2nd vaccination with 100%, 100%, 89% and 95%, respectively. However, there was a marked decrease in anti-SARS-CoV-2 S1 IgG antibody level of 69% in average 3 months after and 80% in average 6 months after the 2nd vaccination in pts with thoracic malignancies (both P < 0.001).

Conclusions: Pts with thoracic malignancies achieve high proportion of seroconversion after two doses of mRNA-based vaccines, yet, anti-SARS-CoV-2 S1 IgG antibody levels decline substantially 3 and 6 months after the 2nd vaccination, thus the 3rd dose of vaccine is reasonable to provide adequate protection against severe COVID-19 disease course.

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189P Assessment of seroconversion after SARS-CoV2 vaccination in patients with lung cancer

I.P. Trontzas[1], I. Vathiotis[1], G. Gomatou[1], M. Grammoustianou[1], I. Tsamis[1], M. Anagnostakis[1], V. Sakka[2], G. Poulakou[2], K.N. Syrigos[1], E.A. Kotteas[1]

[1]Oncology Unit, 3rd University Clinic of Internal Medicine, Sotiria Thoracic Diseases Hospital of Athens, Athens, Greece; [2]3rd University Clinic of Internal Medicine, Sotiria Thoracic Diseases Hospital of Athens, Athens, Greece

Background: SARS-CoV2 mortality rates are significantly higher in patients with lung cancer compared with the general population. However, little is known on their immunization status after vaccination.

Methods: We obtained antibody titers against SARS-CoV2 spike protein from patients with lung cancer both at baseline and at different time points after the first dose of SARS-CoV2 vaccine (three weeks − one week [T1], six weeks $\pm$ one week [T2], 12 weeks $\pm$ three weeks [T3], and 24 weeks $\pm$ three weeks [T4]). Antibody titers were correlated with different clinicopathologic characteristics. Then, they were compared to a control cohort of non-lung cancer patients (Cohort A) as well as a second cohort containing healthy controls (Cohort B) at all time points and at T4, respectively. The t test or one-way analysis of variance was used to compare the means between two or more groups, respectively. All hypothesis testing was performed at a two-sided significance level of α equal to 0.05.

Results: A total of 125 patients with lung cancer were included in the analysis (96 males [74.3%], median age of 68 years [46-91]). All study participants received two vaccine doses (BNT162b2, mRNA-1273, AZD1222). Analysis of anti-SARS-CoV2 spike

protein titers showed minimal serum response at T1 (0.4 [0.4-48.6] IU/ml). Antibody response peaked at T2 (527.0 [0.4 − 2500] IU/ml) and declined over T3 (323.0 [0.4-2500] IU/ml) and T4 (141.0 [0.4-2500] IU/ml). Active smokers had lower antibody titers at T2 (p=0.04), T3 (p=0.04), and T4 (p<0.0001) compared with former or never smokers. Peak antibody titers were not associated with any other clinicopathologic characteristics. No significant differences were observed compared with Cohort A. However, lung cancer patients group exhibited significantly decreased antibody titers compared with Cohort B at T4 (p<0.0001).

Conclusions: Lung cancer patients demonstrate sufficient antibody response six weeks after first dose of vaccine against SARS-CoV2 when vaccinated with two dose vaccines. Rapidly declining antibody titers six weeks after first dose underline the need for further studies concerning a third booster dose three months after first dose in patients with lung cancer, and especially active smokers.

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190P COVID-19 pandemic impact on lung cancer patient's performance status and access to treatment: A comparative study pre and during COVID-19 era

R. Fernandes, M. Pina, C. Fava Gaspar, A.R. Teixeira, C. Oliveira, A. Rodrigues, I. Azevedo

Medical Oncology Department, Instituto Portugues de Oncologia do Porto Francisco Gentil, EPE (IPO-Porto), Porto, Portugal

Background: COVID-19 represents a large health care system consuming problem worldwide, and two years after its onset the real impact among non-COVID disease is still undetermined. Since the pandemic outbreak, cancer patients encountered profound changes in health care accessibility with an unknown impact in their diagnosis and treatment.

Methods: We conducted a retrospective cohort study including a total of 500 first consult patients with lung cancer in a Portuguese Cancer Center during homologous time period, pre (2019) and in the COVID-19 era (2021). Our aim was to characterize and compare both groups in relation to patient's initial performance status, disease staging and patient's conditions to initiate systemic treatment, before and during COVID-19 pandemics.

Results: We found no significant differences in age, gender distribution, time from 1st suspicious image exam to 1st consultation and staging on both groups. However, we observed a tendency towards frailty, with an increased number of patients presenting ECOG-PS >2 (26/250 in 2019 vs. 32/250), this functional deterioration explained the increased number of patients with no conditions to initiate systemic treatment and early referencing to best supportive care treatment (18% [45/250] in 2019 vs. 22% [54/250] in 2021).

Conclusions: We believe that pandemic impact in non-COVID-19 patients, particularly in lung cancer population, is still an emerging and crescent problem that societies and health care systems will need to address in coming years as a concerted effort involving increased investment in the detection and treatment of cancer patients, in order to gradually recover pre-COVID-19 health levels.

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191P Lung cancer care in Europe during COVID-19: Findings from a global survey of patient experience

J. Fenemore

Nursing Oncology, Global Lung Cancer Coalition, Manchester, UK

Background: The Global Lung Cancer Coalition (GLCC), a partnership of 42 patient organisations across 30 nations, surveyed lung cancer patients to understand the impact of the COVID-19 pandemic on their experience of care. The global online survey examined how care pathways had changed, and how this affected patients' communication with their medical team.