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SARS-COV-2 AND CANCER

LBA8 Vaccination against SARS-CoV-2 in patients receiving chemotherapy, immunotherapy, or chemo-immunotherapy for solid tumors

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Background: Patients with cancer have an increased risk of complications from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections. Vaccination is recommended, but the impact of chemotherapy and immunotherapy on immunogenicity and safety is still unclear.

Methods: This prospective multicenter non-inferiority trial comprises four cohorts: individuals without cancer (A) and patients with solid tumors who were treated with immunotherapy (B), chemotherapy (C) or chemo-immunotherapy (D). Participants received two mRNA-1273 vaccinations 28 days apart. The primary endpoint was SARS-CoV-2 Spike S1-specific IgG serum antibody response, defined as >10 binding antibody units (BAU)/ml 28 days after the second vaccination. We also assessed the virus neutralizing capacity of these antibodies, SARS-CoV-2 Spike-specific interferon-gamma T cell response, and adverse events.

Results: Of the 791 participants enrolled, 743 were evaluable for the primary endpoint in cohort A (n=240), B (n=131), C (n=229) and D (n=143). A SARS-CoV-2-binding antibody response was found in 100%, 99.3%, 97.4%, and 100% of the participants in cohorts A, B, C, and D, respectively. To discriminate between suboptimal and adequate responders, we defined a cut-off level at 300 BAU/ml, based on neutralizing capacity. The antibody response was considered adequate after the first vaccination in 66.0%, 37.1%, 32.5%, and 33.3% of the participants in cohorts A, B, C, and D, respectively. This raised 28 days after the second vaccination to respectively 99.6%, 93.1%, 83.8%, and 88.8% in cohorts A, B, C, and D. Spike-specific T cell responses were detected in 46.7% of suboptimal and non-responders. No new safety signals were observed.

Conclusions: mRNA-1273 vaccination is safe in the patient populations studied. For each cohort, the proportion of patients with a SARS-CoV-2-binding antibody response after two vaccinations is non-inferior compared to individuals without cancer. However, a significant minority lacks an adequate response. Most patients have an antibody concentration increase after the second vaccination. Therefore, an additional booster may turn inadequate into adequate responders.

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LBA60 Prospective data of >20,000 hospitalised patients with cancer and COVID-19 derived from the International Severe Acute Respiratory and emerging Infections Consortium WHO Coronavirus Clinical Characterisation Consortium: CCP-CANCER UK

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Background: The International Severe Acute Respiratory and emerging Infections Consortium (ISARIC) WHO Clinical Characterisation Protocol (CCP) UK has collected complete data from 195,000 COVID-19 patients in the UK as of 12th August 2021. Within this consortium CCP-CANCER-UK has been established to study the effects of COVID-19 in hospitalised patients with cancer.

Methods: Patients admitted with proven SARS-CoV-2 infection and registered on CCP-UK from 17th January onwards in 258 healthcare facilities in the UK. Case report forms were used to identify patients with a history of malignant neoplasm or on active treatment for cancer. Analysis is restricted to outcome of patients who were admitted >14 days before data extraction. Patients with a history of cancer and on active treatments were compared to those patients with no history of cancer.

Results: As of 12th August 2021 of the 195,492 participants 15,250 (7.8%) had a history of cancer (Hx Ca) and 5,357 (2.7%) were on active cancer treatment (Act Tx). Patients with cancer were less likely to receive critical care: Hx Ca adjusted odds ratio (aOR) 0.83, 95%CI 0.72 to 0.95, p < 0.001, Act Tx aHR 0.68, 95% CI 0.62 to 0.74, p <0.001. In hospital mortality 23.6% no cancer, 38.9% Hx Ca and 37.6% (aHR Hx Ca: 1.18, 95%CI 1.10 to 1.27, p <0.001, Act Tx: aHR 1.57, 95%CI 1.48 to 1.66, p <0.001). Younger cancer patients, particularly on Act Tx, were more likely to die than similar aged no Ca patients (Act Tx <50 yrs aHR 5.22, 95%CI 4.19 to 6.52, p <0.001). Data will be presented that show over the course of the pandemic, mortality in cancer patients was higher throughout and did not parallel the downward trends seen in patients with no history of cancer.

Conclusions: Europe's largest prospective hospitalised COVID-19 dataset continues to demonstrate that cancer is independently associated with mortality with younger patients remaining at increased relative risk. Cancer patients face unique risks from the SARS-CoV-2 pandemic. Ongoing vaccination/mitigation studies need to recruit cancer patients to understand the degree of protection afforded in this at risk population.

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Legal entity responsible for the study: University of Oxford.

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