Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

1587P SARS-CoV-2 infection risk and COVID-19 prevalence in cancer patients during the first wave of COVID-19 pandemic in a Northern Italy's virus epicenter area

A. Musolino[1], B. Pellegrino[1], L. Isella[1], C. Tommasi[1], F. Pucci[2], A. Leonetti[2], E. Rapacchi[2], F. Leonardi[2], S. Bizzoco[3], P. Affanni[4], L. Veronesi[4], P. Sgargi[1], G. Maglietta[5], M. Michiara[1]

[1]Medical Oncology, Cancer Registry and Breast Unit, University Hospital of Parma, Parma, Italy; [2]Medical Oncology Unit, University Hospital of Parma, Parma, Italy; [3]Direzione Generale, Azienda Sanitaria Locale (AUSL) di Parma, Parma, Italy; [4]Department of Medicine, University of Parma, Parma, Italy; [5]Research and Innovation Unit, University Hospital of Parma, Parma, Italy

Background: Patients (pts) with cancer are purported to be more vulnerable to coronavirus disease 2019 (COVID-19). However, cancer encompasses a spectrum of heterogenous tumor subtypes. The aim of this study was to investigate severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection risk and COVID-19 prevalence according to tumor subtype in the resident cancer population of the Province of Parma (Emilia Romagna Region, Nothern Italy) during the first wave of COVID-19 pandemic in Italy.

Methods: We analyzed data from the Parma Province Cancer Registry, COVID-19 hospital medical records, and local surveillance system of all laboratory-confirmed cases tested positive for SARS-CoV-2 from the beginning of the outbreak (February, 20) to July 19, 2020. All the Parma resident cancer population was classified as either "active" or "inactive" according to the evidence of any referral to health services, for any reason, during the observation period. Study analyses were adjusted for patient demographics, tumor subtype and period of cancer diagnosis.

Results: 40,148 cancer pts (mean age 68; 57.8% females; 45.1% active) were analyzed. The cumulative risk of SARS-CoV-2 infection was 11.2% for cancer pts vs. 7% for non-cancer subjects ($P < 0.0001$). The overall COVID-19 attack rate was 2.2% (95% CI, 2.0-2.4) and 2.6% (95% CI, 2.4-2.9) for inactive and active cancer pts, respectively. The cumulative incidence of COVID-19 was higher in active vs. inactive cancer subjects (HR 1.18, $P = 0.01$). In the active cancer group, the cumulative incidence of COVID-19 was higher in lung cancer pts vs. other tumors (HR 4.3). In the same group, HR for breast cancer pts was 0.86. Interestingly, the subgroup analysis of COVID-19 cumulative incidence showed a significant interaction between active patient status and hematological malignancies.

Conclusions: In our study, cancer pts were more susceptible to SARS-CoV-2 infection. The cumulative incidence of COVID-19 was higher in active vs. inactive cancer subjects. However, cancer is a heterogeneous group of diseases and pts with different tumor types had differing susceptibility to COVID-19 phenotypes. COVID-19 fatality rates for subgroups will be reported at the meeting.

Legal entity responsible for the study: University Hospital of Parma.

Funding: Has not received any funding.

Disclosure: A. Musolino: Financial Interests, Institutional, Research Grant: Lilly; Financial Interests, Personal, Advisory Board: Roche; Financial Interests, Personal, Advisory Board: Macrogenics; Financial Interests, Personal, Advisory Board: Pfizer; Financial Interests, Personal, Advisory Board: Seagen. B. Pellegrino: Financial Interests, Personal, Research Grant: Roche. All other authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2021.08.1580

1588P SARS-CoV-2 antibody seroprevalence and safety of vaccines in cancer patients who recovered from COVID-19

M. Patel[1], E. Felip[2], R. Sharkey[3], M. Krengli[4], J.D. Chester[5], A. Sita-Lumsden[6], U. Mukherjee[7], B. Russell[8], A. Loizidou[9], J. Colomba[10], C. Andrea Cruz[11], A. Cabirta[12], I. Ruiz Camps[12], J. Brunet[13], A. Sureda[14], A. Patriarca[4], C. Tondini[15], D.J. Pinato[16], A. Cortellini[17]

[1]Surgery and Cancer, Imperial College London, London, UK; [2]Medical Oncology Dept., Catalan Institute of Oncology, Badalona, Spain; [3]Department of Oncology and National Centre for HIV Malignancy, Chelsea and Westminster Hospital, London, UK; [4]Division of Oncology, Department of Translational Medicine, University of Piemonte Orientale, Novara, Novara, Italy; [5]Medical Oncology, Velindre Cancer Centre - Velindre NHS University Trust - NHS Wales, Cardiff, UK; [6]Guy's Cancer, Guy's and St. Thomas' Hospital NHS Trust, London, UK; [7]Oncology Department, St. Bartholomew's Hospital - Barts Health NHS Trust, London, UK; [8]Comprehensive Cancer Centre, KCL - King's College London, London, UK; [9]Internal Medicine, Institute Jules Bordet, Brussels, Belgium; [10]Department of Cancer Medicine, Institut Gustave Roussy, University of Paris Saclay, Paris, France; [11]Medical Oncology, Hospital Clinic Barcelona, Barcelona, Spain; [12]Medical Oncology, Vall d'Hebron University Hospital and Institute of Oncology (VHIO), Barcelona, Spain; [13]Medical Oncology, Catalan Institute of Oncology, University Hospital Josep Trueta, Girona, Spain; [14]Medical Oncology, ICO L'Hospitalet, Oncobell Program (IDIBELL), CIBERONC, Hospitalet de Llobregat, Barcelona, Spain; [15]Medical Oncology, Ospedali Riuniti di Bergamo, Bergamo, Italy; [16]Surgery and Cancer, Imperial College London - Hammersmith Hospital, London, UK; [17]Department of Biotechnology and Applied Clinical Sciences, University of L'Aquila, L'Aquila, Italy

Background: Little is known about natural anti-SARS-CoV-2 antibody seroprevalence post COVID-19 and safety of vaccines in COVID-19 survivors with cancer.

Methods: Among 2795 consecutive patients (pts) with COVID-19 and cancer registered to OnCovid between 01/2020 and 02/2021, we examined natural seroprevalence of anti-SARS-CoV-2 Antibodies (SC2Ab, IgM or IgG) in pts tested post-infection. We analysed prevalence and safety of SARS-Cov-2 vaccine administration in pts who underwent clinical re-assessment at participating institutions.

Results: Out of 350 pts tested for SC2Ab, 318 (90.9%) had a positive SC2Ab titre post-convalescence. Neither baseline features (sex, age, comorbidities, smoking history, tumour stage/status, anticancer-therapy and primary tumour) nor COVID-19-specific features (complications, hospitalization, sequelae) were significantly associated SC2Ab status. Receipt of COVID-19 specific therapy was higher among SC2Ab+ pts (62.6% vs 40.6%, p=0.0156). Out of 593 pts with known vaccination status, 178 (30%) had received 1 dose, whilst 38 pts (6.4%) received 2 doses of mRNA based (70.2%) or viral vector vaccine (17.4%). Vaccinated pts were more likely aged $\geq$65 years (59% vs 48.3%, p=0.0172), with loco-regional tumour stage (56% vs 40.8%, p=0.0014), on anti-cancer therapy at COVID-19 (49.1% vs 38.2%, p=0.0168) and history of prior hospitalisation due to COVID-19 (61.8% vs 48.3%, p=0.0029). Vaccine-related adverse events were reported for 18/56 evaluable pts (32.1%) and included injection site reactions (50%), fever (44.4%), arthralgias (33.3%), fatigue (33.3%) and allergy (5.5%). No long-term vaccine-related morbidity was reported.

Conclusions: We report high seroprevalence (>90%) of SC2Ab in convalescent cancer pts who survived COVID-19 irrespective of baseline demographics, oncological characteristics and COVID-19 severity. COVID-19 vaccines appear to be safe in cancer pts with history of prior infection.

Clinical trial identification: NCT04393974.

Legal entity responsible for the study: Imperial College London.

Funding: Has not received any funding.

Disclosure: D.J. Pinato: Financial Interests, Personal, Invited Speaker: ViiV Healthcare; Financial Interests, Personal, Invited Speaker: Bayer; Financial Interests, Personal, Advisory Board: Eisai; Financial Interests, Personal, Advisory Board: Amgen; Financial Interests, Personal, Advisory Board: BMS; Financial Interests, Personal, Advisory Board: Pfizer; Financial Interests, Personal, Advisory Board: Nanostring tech. A. Cortellini: Financial Interests, Personal, Advisory Board: MSD; Financial Interests, Personal, Advisory Board: BMS; Financial Interests, Personal, Advisory Board: Roche; Financial Interests, Personal, Invited Speaker: Novartis; Financial Interests, Personal, Advisory Board: SunPharma; Financial Interests, Personal, Invited Speaker: AstraZeneca; Financial Interests, Personal, Invited Speaker: Astellas. All other authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2021.08.1581

1589P Safety of the BNT162b2 mRNA COVID-19 vaccine in oncologic patients undergoing numerous cancer treatment options

M. Zemel[1], W. Kian[1], E.H. Kestenbaum[1], W. Alguayn[2], D. Levitas[1], A.A. Sharb[2], W. Shalata[1], K. Rouvinov[1], L. Nesher[3], A. Yakobson[1]

[1]The Legacy Heritage Center & Dr. Larry Norton Institute, Ben-Gurion University of the Negev, Beer Sheva, Israel; [2]Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer Sheva, Israel; [3]Infectious Disease Institute, Soroka Medical Center, Ben-Gurion University of the Negev, Beer Sheva, Israel

Background: The COVID-19 pandemic, caused by the SARS-CoV2 virus, has infected millions worldwide with cancer patients demonstrating a higher prevalence for severe disease and poorer outcomes. Recently, the BNT162b2 mRNA COVID-19 vaccine was