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.

1564MO Characterization of COVID-19 vaccination response by antibody (Ab) titer and T-cell receptor (TCR) sequencing in patients (pts) with advanced genitourinary (GU) cancers

S.K. Salgia[1], J. Malhotra[1], Z. Zengin[1], L. Meza[1], J. Ely[2], J. Hsu[1], E. Kelley[2], A. Chehrazi-Raffle[1], A. Govindarajan[1], R. Muddasani[1], N. Salgia[1], N. Dizman[1], N. Chawla[1], T. Dorff[1], Y. Lyou[1], E. Karczewska[1], J. Trent[3], R. Salgia[1], J. Altin[2], S.K. Pal[1]

[1]Medical Oncology & Therapeutics Research, City of Hope Comprehensive Cancer Center, Duarte, CA, USA; [2]Pathogen Genomics and Integrated Cancer Genomics Divisions, Translational Genomics Research Institute, Flagstaff, AZ, USA; [3]Genetic Basis of Human Disease Division, Translational Genomics Research Institute, Phoenix, AZ, USA

Background: Preliminary studies have characterized potential adverse effects associated with COVID-19 vaccination in pts with cancer. However, biological characterization of vaccine response has yet to be performed.

Methods: Eligible pts with advanced GU cancers (metastatic/unresectable prostate, bladder and renal cell carcinoma [RCC]) and had not yet received COVID-19 vaccination. Pts were consented to receive sequential blood draws prior to vaccination and at landmarks of 2, 6, and 12 mos following vaccination. Pts on systemic treatment had additional blood draws coinciding with their first 3 cycles of therapy following vaccination. Ab titers to SARS-CoV-2 were quantified via ELISA and reported as an immune status ratio (ISR). RNA was extracted from PBMC aliquots, converted into cDNA and TCR α/β sequences were selectively amplified. TCR abundance and homology clustering was performed using custom scripts.

Results: As of May 14, 2021, 130 pts had consented to the study of whom 126 pts submitted baseline (BL) specimens. The current analysis focuses on 56 pts who submitted cycle 1 (C1) specimens. Among these, 29, 26, and 1 pts had RCC, prostate and bladder cancer, respectively; 19 were on checkpoint inhibitor (CPI)-based regimens while 37 were on non-CPI regimens. BNT162b2 (Pfizer) was the most commonly administered vaccine in the cohort (n=29), followed by mRNA-1273 (Moderna; n=26). COVID-19 Ab titers increased significantly from BL to C1 across the cohort from 0.19 (interquartile range [IQR] 0.12-0.18) to 4.37 (IQR 0.2-6.60; P<0.0001). However, 8/56 pts (14.3%) receiving CPI-based regimens and 8/56 pts (14.3%) receiving non-CPI-based regimens were noted to have negative Ab titers after a median of 18 and 35 days following initial vaccination, respectively. No significant difference was observed in the increase from BL to C1 in pts receiving CPI vs non-CPI-based regimens. Specimen collection is ongoing; updated Ab titer data and TCR sequencing data will be presented.

Conclusions: Our data prompt concern for delayed or insufficient COVID-19 Ab response in a subset of pts with advanced GU cancers.

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1565MO Time-dependent improvement in the clinical outcomes from COVID-19 in cancer patients: An updated analysis of the OnCovid registry

D.J. Pinato[1], M. Patel[2], M. Lambertini[3], E. Colomba[4], F. Pommeret[5], M. Van Hemelrijick[6], A. Zambelli[7], T. Newsom-Davis[8], R. Salazar[9], A. Bertuzzi[10], G. Gaidano[11], G. Rizzo[12], G. Patel[13], E. Felip[14], A. Prat[15], J. Aguilar-Company[16], J. Tabernero[17], N. Diamantis[18], A. Gennari[19], A. Cortellini[20]

[1]Surgery and Cancer, Imperial College London - Hammersmith Hospital, London, UK; [2]Surgery and Cancer, Imperial College London, London, UK; [3]Department of Medical Oncology and Department of Internal Medicine, IRCCS Ospedale Policlinico San Martino and University of Genoa, Genoa, Italy; [4]Department of Cancer Medicine, Gustave Roussy Cancerology Institute, GINECO group, Villejuif, France; [5]Medical Oncology Dept., Institut Bergonié, Bordeaux, France; [6]Translational Oncology and Urology Research, King's College London, London, UK; [7]Oncologia, Azienda Ospedaliera Papa Giovanni XXIII, Bergamo, Italy; [8]Oncology Dept., Chelsea and Westminster Hospital - NHS Trust, London, UK; [9]Oncology Dept, Institut Català d'Oncologia-Hospital Duran i Reynals, Hospitalet De Llobregat, Spain; [10]Medical Oncology Dept., Istituto Clinico Humanitas, Rozzano, Italy; [11]Department of Translational Medicine, Amedeo Avogadro University, Novara, Italy; [12]Oncology Dept., Fondazione IRCCS Policlinico San Matteo, Pavia, Italy; [13]Medical Oncology Unit, University College, London, UK; [14]Medical Oncology Dept., Catalan Institute of Oncology, Badalona, Spain; [15]Medical Oncology Department, Hospital Clinic y Provincial de Barcelona, Barcelona, Spain; [16]Medical Oncology, Vall d'Hebron University Hospital and Institute of Oncology, Barcelona, Spain; [17]Medical Oncology Dept., Vall d'Hebron University Hospital, Barcelona, Spain; [18]Drug Development Unit, The Royal Marsden Hospital NHS Foundation Trust, Sutton, UK; [19]Medical Oncology Department, Università degli Studi del Piemonte Orientale - Scuola di Medicina, Novara, Italy; [20]Medical Oncology Department, Ospedale Civile San Salvatore - ASL 1- Avezzano Sulmona L'Aquila, L'Aquila, Italy

Background: Early reports from registry studies demonstrated high vulnerability of cancer patients from COVID-19, with case-fatality rates (CFR) >30% at the onset of the pandemic. With advances in disease management and increased testing capacity, the lethality of COVID-19 in cancer patients may have improved over time.

Methods: The OnCovid registry lists European cancer patients consecutively diagnosed with COVID-19 in 35 centres from Jan 2020 to Feb 2021. We analysed clinical characteristics and outcomes stratified in 5 trimesters (Jan-Mar, Apr-Jun, Jul-Sep, Oct-Dec 2020 and Jan-Feb 2021) and studied predictors of mortality across 2 semesters (Jan-Jun 2020 and Jul 2020-Feb 2021).

Results: At data cut-off, the 2634 eligible patients demonstrated significant time-dependant improvement in 14-days CFR with trimestral estimates of 29.8%, 20.3%, 12.5%, 17.2% and 14.5% (p<0.0001). Compared to the 2nd semester, patients diagnosed in the Jan-Jun 2020 time period were ≥65 (60.3% vs 56.1%, p=0.031) had ≥2 comorbidities (48.8% vs 42.4%, p=0.001) and non-advanced tumours (46.4% vs 56.1%, p<0.001). COVID-19 was more likely to be complicated in Jan-Jun 2020 (45.4% vs 33.9%, p<0.001), requiring hospitalization (59.8% vs 42.1%, p<0.001) and anti-COVID-19 therapy (61.7% vs 49.7%, p<0.001). The 14-days CFR for the 1st and 2nd semester was 25.6% vs 16.2% (p<0.0001), respectively. After adjusting for gender, age, comorbidities, tumour features, COVID-19 and anti-cancer therapy and COVID-19 complications, patients diagnosed in the 1st semester had an increased risk of death at 14 days (HR 1.68 [95%CI: 1.35-2.09]), but not at 3 months (HR 1.10 [95%CI: 0.94-1.29]) compared to those from the 2nd semester.

Conclusions: We report a time-dependent improvement in the mortality from COVID-19 in European cancer patients. This may be explained by expanding testing capacity, improved healthcare resources and dynamic changes in community transmission over time. These findings are informative for clinical practice and policy making in the context of an unresolved pandemic.

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1566MO Resilience of elective cancer surgery systems during COVID-19 lockdowns: International, prospective cohort study of planned surgery for 15 tumour types in 61 countries

J. Glasbey, on behalf of the COVIDSurg Collaborative

NIHR Global Health Research on Global Surgery, University of Birmingham, Birmingham, UK

Background: Surgery is the main modality of cure for solid cancers and was prioritised to continue even during SARS-CoV-2 outbreaks. This study aimed to identify immediate areas for system strengthening by comparing the delivery of elective cancer surgery during COVID-19 in periods of lockdown versus light restriction.