

COVID-19
AND
LUNG
CANCER

**What We Know, What We Don't Know and
What It All Means for Current Patient Care – *A Live CME Webinar***

**Thursday, July 2, 2020
12:00 PM – 1:00 PM ET**

Moderator
Neil Love, MD

Faculty
Leora Horn, MD, MSc
Naiyer A Rizvi, MD
Lecia V Sequist, MD, MPH

Faculty



Leora Horn, MD, MSc

Ingram Associate Professor of
Cancer Research
Director, Thoracic Oncology
Research Program
Assistant Vice Chairman for Faculty
Development
Vanderbilt University Medical Center
Nashville, Tennessee



Lecia V Sequist, MD, MPH

Director, Center for Innovation in Early
Cancer Detection
Massachusetts General Hospital Cancer Center
The Landry Family Professor of Medicine
Harvard Medical School
Boston, Massachusetts



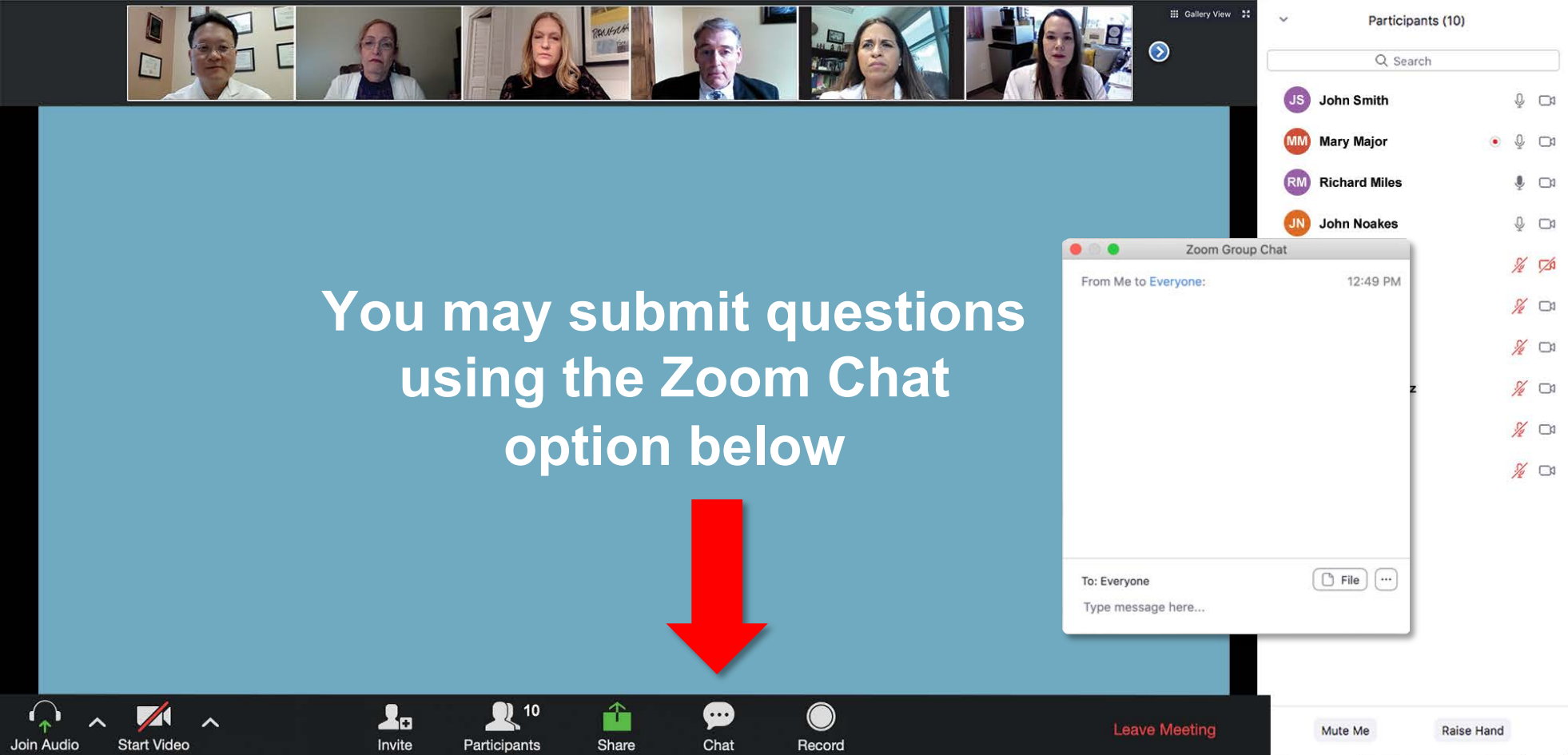
Naiyer A Rizvi, MD

Price Family Professor of Medicine
Director, Thoracic Oncology and Phase I
Immunotherapeutics
Division of Hematology/Oncology
Columbia University Irving Medical Center
New York, New York

Familiarizing yourself with the Zoom interface

How to participate in the chat

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Zoom Group Chat

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Feel free to submit questions **now** before the program commences and **throughout** the program.

ONCOLOGY TODAY

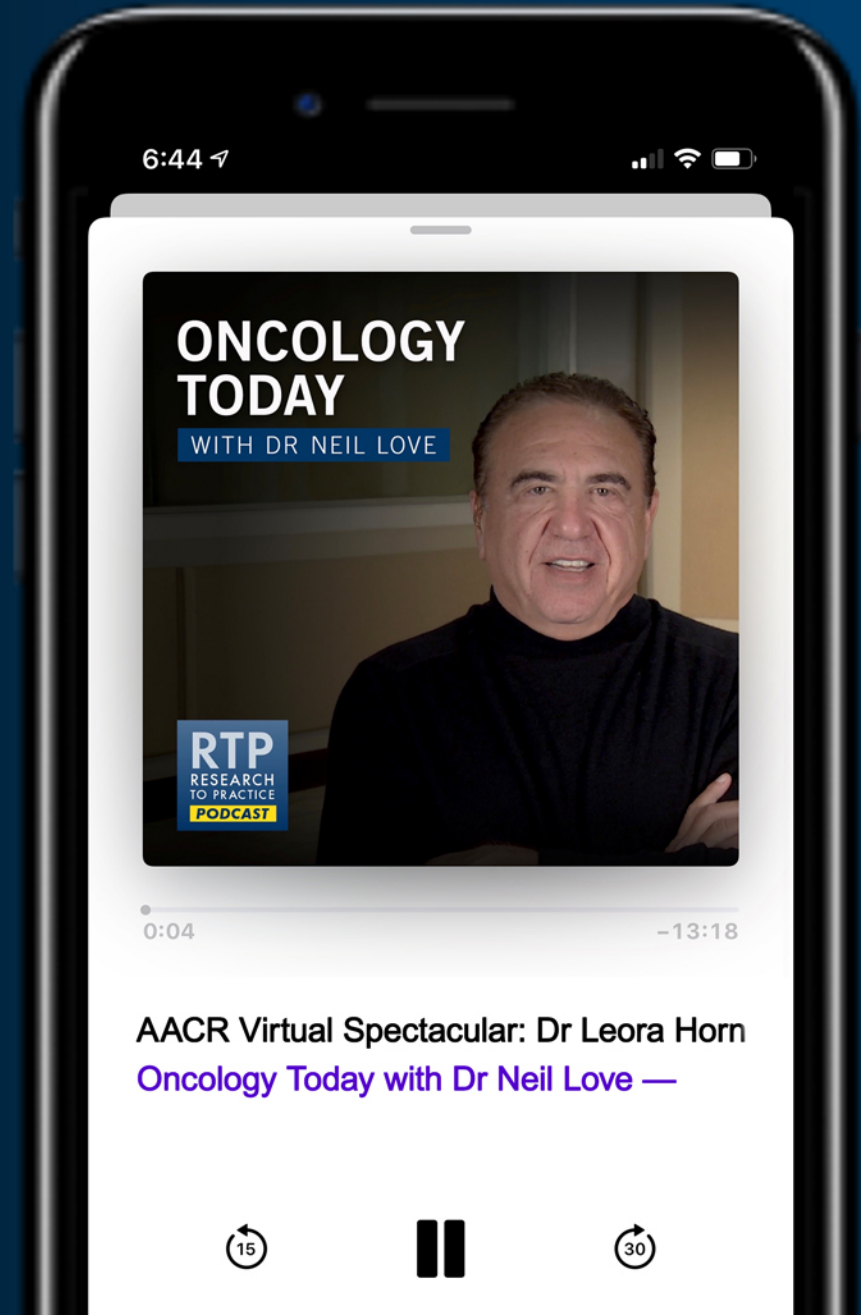
WITH DR NEIL LOVE



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Meet The Professors

PARP Inhibitors, Immunotherapy and Other Novel Agents in Gynecologic Cancers

Tuesday, July 7, 2020

12:00 PM – 1:00 PM ET

Faculty

Robert L Coleman, MD

Ursula Matulonis, MD

Moderator

Neil Love, MD

Research
To Practice®

Key Questions and Emerging Research in the Management of HER2-Positive Breast Cancer

**Wednesday, July 8, 2020
5:00 PM – 6:00 PM ET**

Faculty

**Lisa A Carey, MD
Ian E Krop, MD, PhD**

Moderator

Neil Love, MD

What Urologists Need to Know About Immune Checkpoint Inhibitors and Other Novel Approaches for Urothelial Bladder Cancer

Thursday, July 9, 2020
5:00 PM – 6:00 PM ET

Faculty

Arjun Balar, MD
Sia Daneshmand, MD

Ashish M Kamat, MD, MBBS
Jonathan E Rosenberg, MD

Moderator

Neil Love, MD

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Agenda

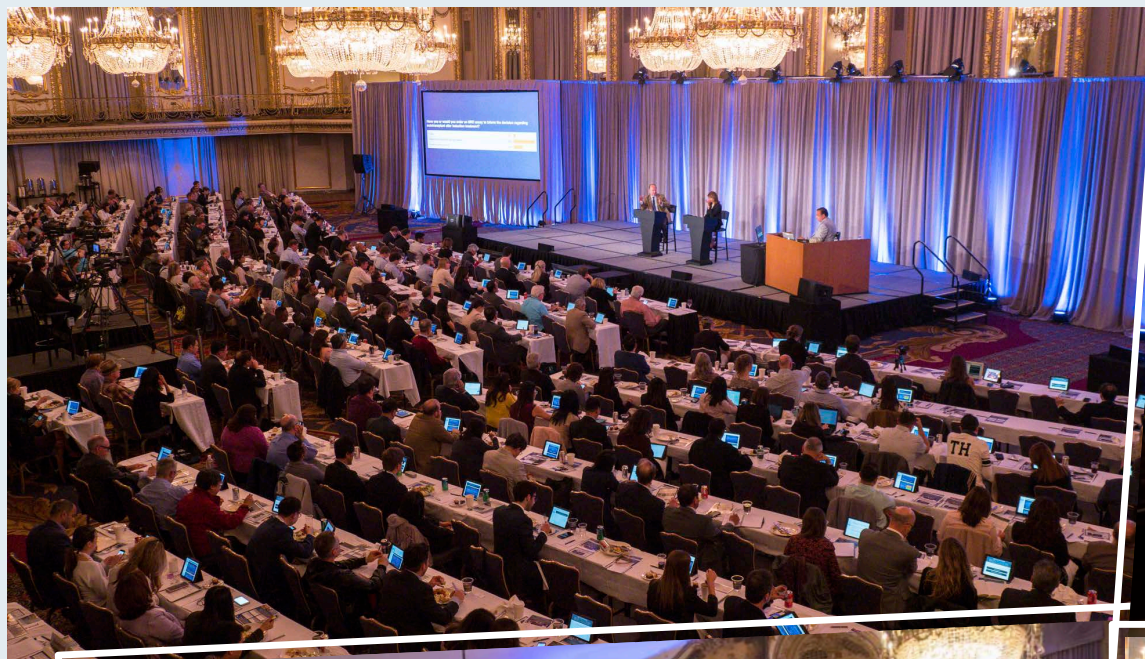
Introduction: Personal impact of COVID-19 on patients, families, oncology professionals

Module 1: Clinical care of the oncology patient without confirmed COVID-19

Module 2: Clinical care of the oncology patient with confirmed COVID-19

Module 3: Ongoing issues

Introduction: Personal impact of COVID-19 on patients, families, oncology professionals





ONCOLOGY TODAY

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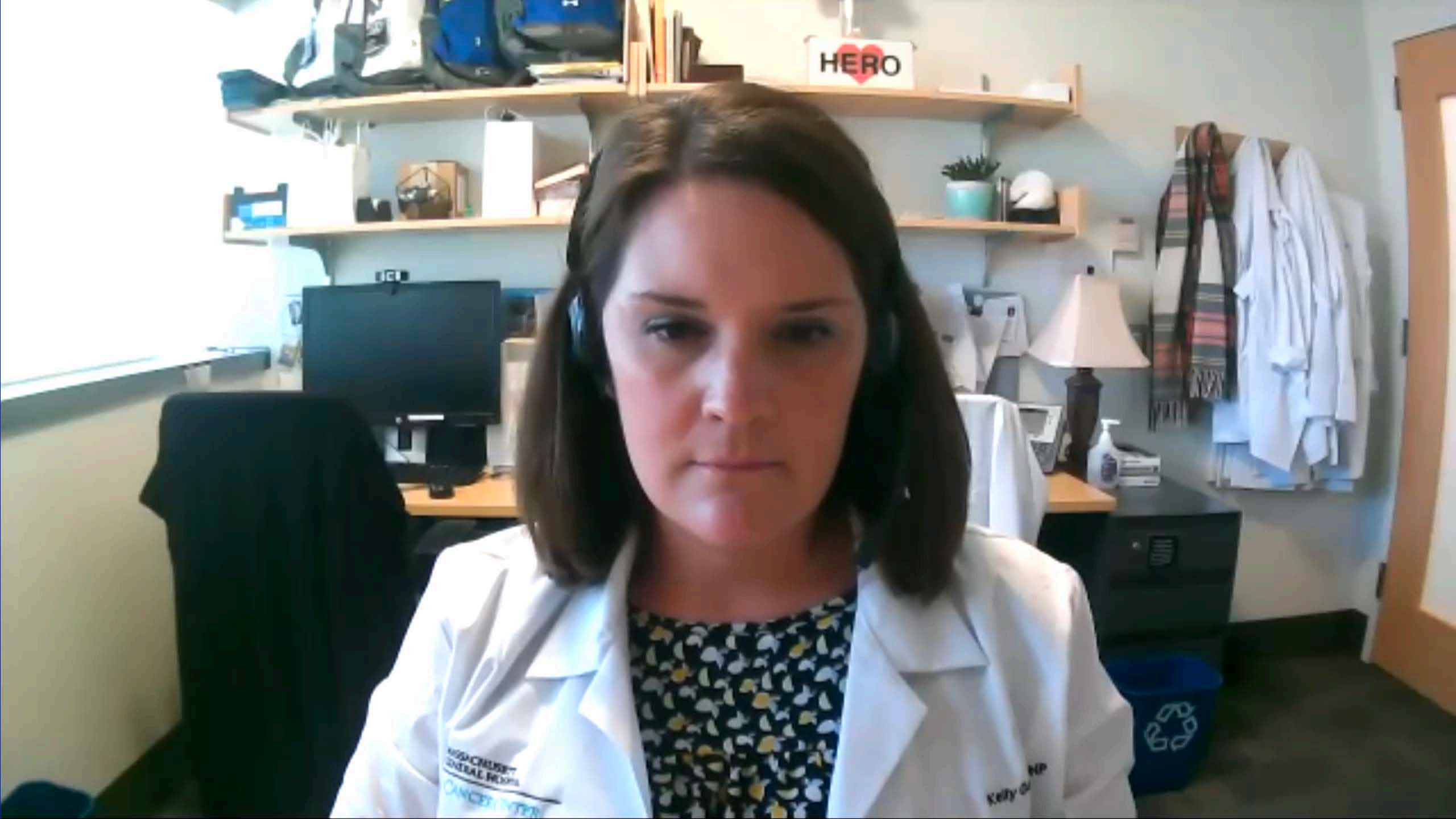
Cite as: M. Roschewski *et al.*, *Sci. Immunol.*
10.1126/sciimmunol.abd0110 (2020).

CORONAVIRUS

Inhibition of Bruton tyrosine kinase in patients with severe COVID-19

Mark Roschewski^{1*}, Michail S. Lionakis^{2*}, Jeff P. Sharman^{3*}, Joseph Roswarski^{4*}, Andre Goy⁵, M. Andrew Monticelli⁶, Michael Roshon⁷, Stephen H. Wrzesinski⁸, Jigar V. Desai², Marissa A. Zarakas², Jacob Collen⁹, Keith Rose⁵, Ahmed Hamdy¹⁰, Raquel Izumi¹⁰, George W. Wright¹¹, Kevin K. Chung⁹, Jose Baselga¹², Louis M. Staudt^{1#}, Wyndham H. Wilson^{1#†}

¹Lymphoid Malignancies Branch, National Cancer Institute, Bethesda, MD; ²Fungal Pathogenesis Section, Laboratory of Clinical Immunology and Microbiology, National Institute of Allergy and Infectious Diseases, Bethesda, MD; ³Willamette Valley Cancer Institute and Research Center, US Oncology, Eugene, OR; ⁴Hematology-Oncology Department, Walter Reed National Military Medical Center, Bethesda, MD; ⁵John Theurer Cancer Center, Hackensack Meridian and School of Medicine at Seton Hall, NJ; ⁶Rocky Mountain Cancer Center, US Oncology, Colorado Springs, CO; ⁷Department of Emergency Medicine, Penrose-St. Francis Health Services, Colorado Springs, CO; US Acute Care Solutions, Canton, OH; ⁸Department of Medicine, St. Peter's Hospital and US Oncology, Albany, NY; ⁹Department of Medicine, Uniformed Services University of the Health Sciences, Bethesda, MD; ¹⁰Acerta Pharma, South San Francisco, CA; ¹¹Biometric Research Branch, Division of Cancer Diagnosis and Treatment, National Cancer Institute, Bethesda, MD, USA ¹²AstraZeneca, One MedImmune Way, Gaithersburg, MD



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Kerry

Exploring the Current and Future Role of PARP Inhibition in the Management of Prostate Cancer

Thursday, March 30, 2020

Moderator

Neil Love, MD

Faculty

Neeraj Agarwal, MD

Emmanuel S Antonarakis, MD

A Oliver Sartor, MD

Faculty



Neeraj Agarwal, MD



A Oliver Sartor, MD



Emmanuel S Antonarakis, MD

Striving for Consensus on the Optimal Management of Metastatic Non-Small Cell Lung Cancer

Friday, May 8, 2020

Moderator

Neil Love, MD

Faculty

Hossein Borghaei, DO, MS
Julie R Brahmer, MD
Edward B Garon, MD, MS
Ramaswamy Govindan, MD

John V Heymach, MD, PhD
Leora Horn, MD, MSc
Melissa L Johnson, MD
Benjamin Levy, MD

Faculty



Hossein Borghaei, DO, MS



John V Heymach, MD, PhD



Julie R Brahmer, MD



Leora Horn, MD, MSc



Edward B Garon, MD, MS



Melissa L Johnson, MD



Ramaswamy Govindan, MD



Benjamin Levy, MD

COVID-19
AND **CLL**

MAY 21, 2020

**Understanding the Impact of COVID-19 on the Care of Patients
with Chronic Lymphocytic Leukemia – A Live CME Webinar**

Moderator

Neil Love, MD

Faculty

Matthew S Davids, MD, MMSc

Anthony R Mato, MD, MSCE

Jeff Sharman, MD

Faculty



Matthew S Davids, MD, MMSc



Jeff Sharman, MD



Anthony R Mato, MD, MSCE

Agenda

Introduction: Personal impact of COVID-19 on patients, families, oncology professionals

Module 1: Clinical care of the oncology patient without confirmed COVID-19

Module 2: Clinical care of the oncology patient with confirmed COVID-19

Module 3: Ongoing issues

Module 1: Clinical care of the oncology patient without confirmed COVID-19

- Procedure in clinics (PPE, screening, visitors, medical procedures, telemedicine)
- COVID-19 testing
- Systemic treatments and COVID-19 — Risk of infection and complications
 - Chemotherapy (neutropenia), growth factors
 - Checkpoint inhibitors
 - Targeted treatment
- Clinical practice patterns
 - Multiple guidelines/recommendations
- Current approaches to chemotherapy, immunotherapy and targeted treatment
 - Metastatic disease
 - Stage III inoperable lung cancer
 - Adjuvant treatment

How many patients with cancer in your practice have had a suspected or confirmed COVID-19 infection?

- a. None
- b. 1
- c. 2
- d. 3
- e. 4-10
- f. More than 10

Do you currently order COVID-19 testing for asymptomatic patients who are starting on a systemic anticancer treatment?

- a. Yes, for all systemic regimens
- b. Yes, for chemotherapy only
- c. No

Introduction

- Clinical manifestations of COVID-19 range from asymptomatic, to mild symptoms (cold, fever, cough, or other non-specific signs), to severe pneumonia leading to acute respiratory distress syndrome, which occurs in 17–29% of infected individuals
- Mortality due to COVID-19 has been reported in about 3% of COVID-19-positive patients in the Chinese population
- Main CT findings include multifocal peripheral and basal ground-glass opacities, traction bronchiectasis, and air bronchogram signs. A progressive transition to consolidation, together with pleural effusion, extensive small lung nodules...

Challenges in lung cancer population

- Immune checkpoint inhibitor- related pneumonitis has been reported in about 2% of cancer patients with a seemingly higher incidence in patients with lung cancer
- Similarly, tyrosine kinase inhibitors can induce radiological patterns of interstitial-like pneumonitis, which develops in 4% of patients with epidermal growth factor receptor-mutant lung cancer treated with osimertinib
- Chemotherapy-associated pneumonitis is known to occur in up to 16% of treated patients, and cytotoxic chemotherapy has immunosuppressive activity

Module 1: Clinical care of the oncology patient without confirmed COVID-19

- Procedure in clinics (PPE, screening, visitors, medical procedures, telemedicine)
- COVID-19 testing
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Reimbursement and regulatory issues aside, which adjuvant treatment, if any, would you most likely recommend for a patient with Stage IIB adenocarcinoma of the lung and an EGFR exon 19 mutation?

- a. None
- b. Chemotherapy
- c. Chemotherapy → osimertinib
- d. Osimertinib
- e. Other

A patient with metastatic squamous cell carcinoma of the lung and a PD-L1 TPS of 30% tests positive for COVID-19 but is asymptomatic. Which treatment, if any, would you most likely recommend?

- a. None — observation
- b. Chemotherapy
- c. Chemotherapy and immunotherapy
- d. Immunotherapy
- e. Other

Case (Dr Horn): 68-Year-Old Man with Metastatic Squamous Cell Lung Cancer

- 68-year-old man with newly diagnosed stage IV lung cancer, squamous cell histology, PD-L1 30% presents to clinic to discuss treatment options for his lung cancer.
 - He was previously positive for COVID-19 with RT-PCR on nasal swab. His symptoms of fatigue, anosmia have resolved. He has been asymptomatic for 6 weeks.
 - You retest him as part of SOC prior to starting therapy with carboplatin, nab-paclitaxel and pembrolizumab, and he is positive for COVID-19 on RT-PCR.
 - What do you recommend?
1. Delay therapy until he is negative
 2. Proceed with therapy as planned
 3. Proceed with pembrolizumab alone
 4. Proceed with nivolumab + ipilimumab

Case (Dr Horn): 70-Year-Old Man with Metastatic SCLC

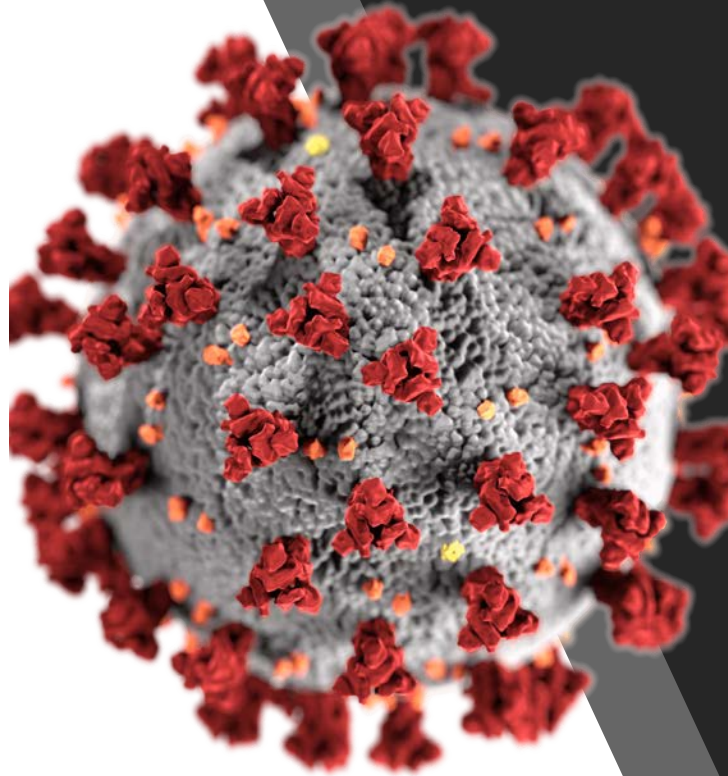
- 70-year-old male, smoker with stage IV small cell lung cancer, with metastases to liver, lung and bone is on first-line therapy with carboplatin, etoposide and atezolizumab.
 - He has received two cycles of therapy and imaging has shown a nice response with a reduction in his disease burden. He comes into clinic on day 8 of cycle 3 with shortness of breath, chest pain and diarrhea.
 - Imaging shows pneumonitis in bilateral lungs.
 - How do you proceed?
1. Test for SARS-CoV-2 and start steroids for presumed pneumonitis
 2. Test for SARS-CoV-2 and hold steroids until you have the results

Factors Associated with Severe COVID-19

- Older age
- Higher ECOG performance status scores, and
- More advanced stage
- More likely to have received chemotherapy, radiotherapy, targeted therapy, or immunotherapy but NOT surgery
- Last chemotherapy treatment within 2 weeks
- Less than one year since cancer diagnosis



Conclusions



- Patients with cancer are at increased risk for mortality from COVID-19 compared to the general population
- Patients with lung cancer and hematologic cancer appear to be particularly at risk
- Cancer patients appear to be less likely to be offered ICU level care
- Conflicting data on which comorbidities impact survival but the presence of any comorbidity is a factor
- Older age and chemotherapy administration appear to be associated with worse survival while immunotherapy and targeted therapy do not
- No clear evidence on what available therapies for COVID impact cancer patient outcomes

Module 2: Clinical care of the oncology patient with confirmed COVID-19

- Diagnostic challenges in the lung
- Cases and clinical experiences at Columbia University Hospital
- COVID-19 at Massachusetts General Hospital — Effects on patient care

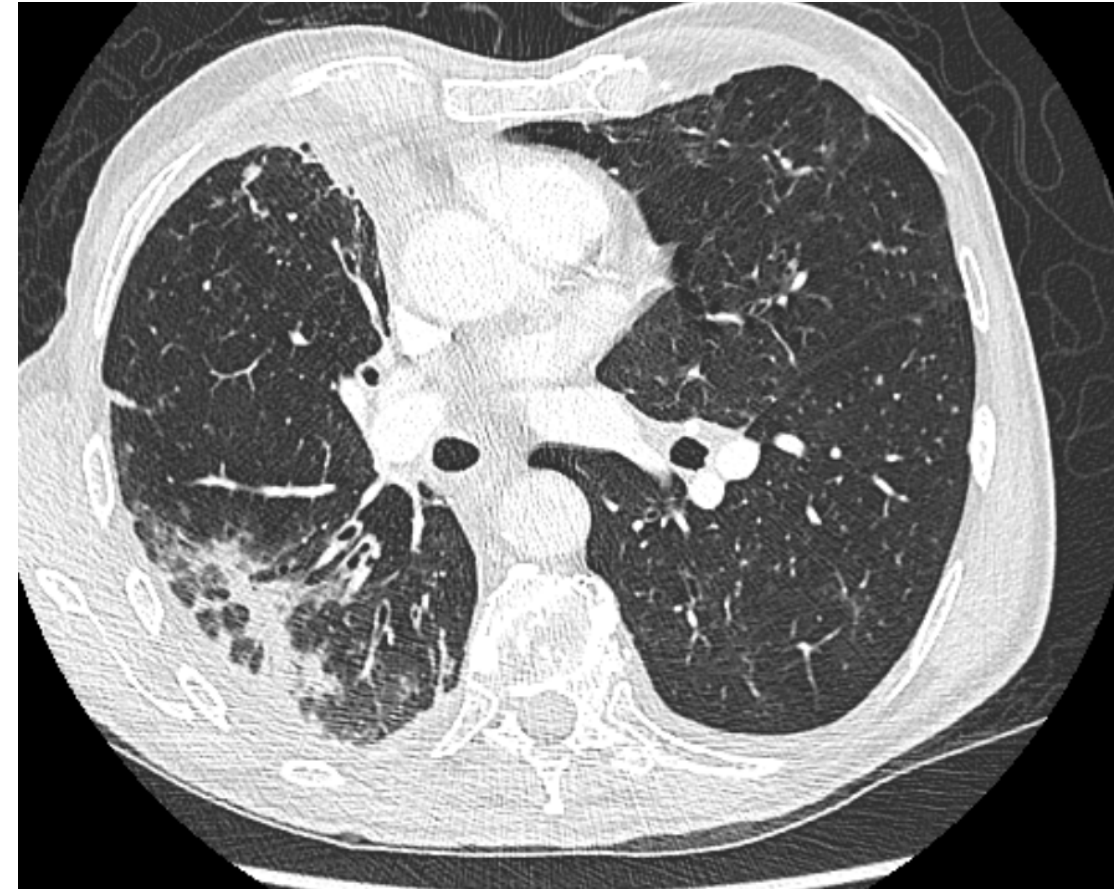
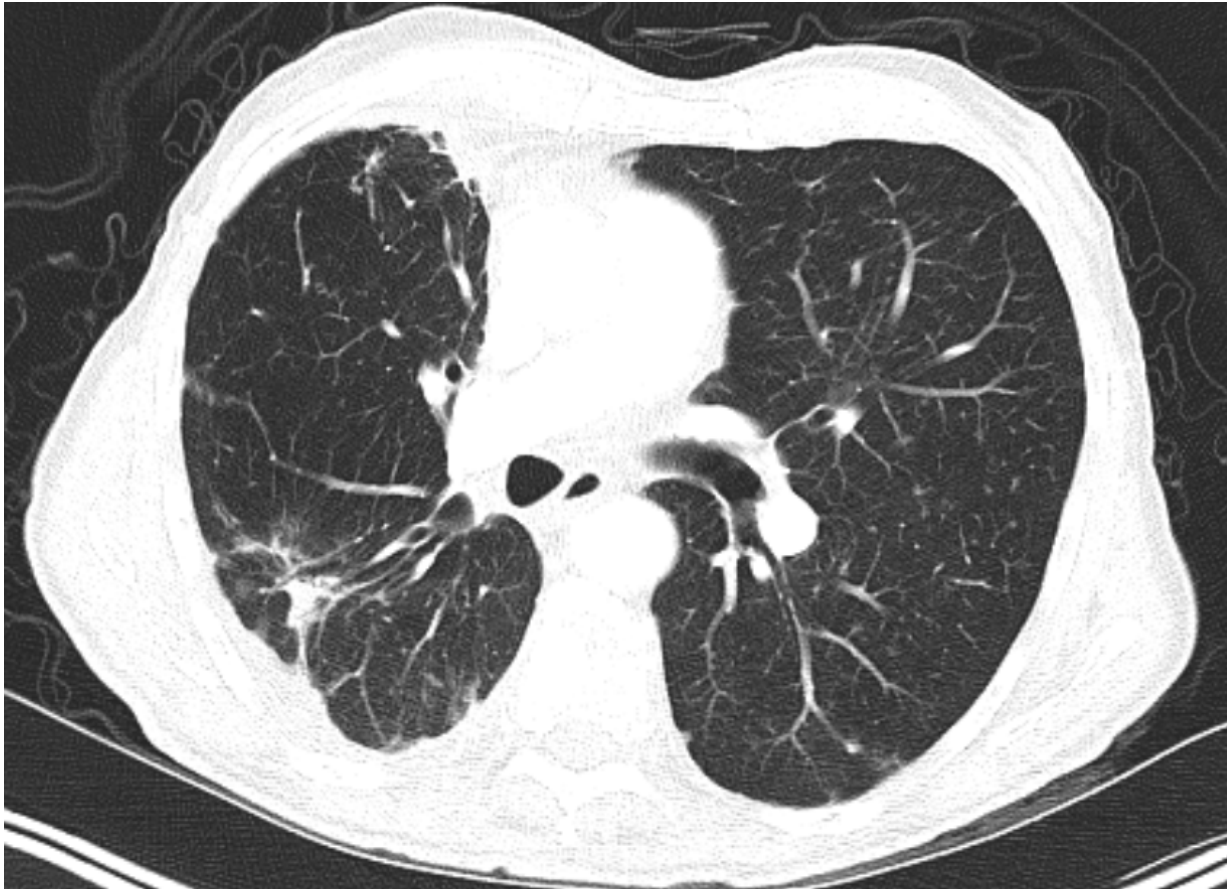
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	Diagnosis	Stage	Treatment	Smoking history	Prior chest RT	Co-morbidities	Outcome
62M	Adeno	IV	Observation	Yes	Yes	RT fibrosis	Deceased
78F	EGFRm	IV	Osimertinib	No	No	None	Deceased
53M	Adeno	IV	New diagnosis	Yes	No	None	Recovered
60M	SCC	IIIB	Durvalumab	Yes	Yes	None	Deceased
76F	EGFRm	IV	Gemcitabine	No	Yes	DM, HTN	Deceased
58F	Adeno	IV	PD-1	Yes	No	None	Recovered
62F	SCC	IV	Chemo/IO	Yes	No	None	Recovered
48F	SCC	IV	PD-1	No	No	None	Recovered
54M	Adeno	IV	Carbo/paclitaxel	Yes	No	PE, HTN	Deceased
80M	SCLC	IV	VP/carbo	Yes	No	CKD, lymphoma	Recovered
101F	EGFRm	IV	Osimertinib	No	No	None	Deceased
73M	EGFR exon 20	IV	EGFRi trial	No	Yes	None	Asymptomatic
79	Adeno	IV	PD-1	Yes	No	DM, HTN	Low grade fever
52M	SCLC	IV	New diagnosis	Yes	No	DM, HTN, CLL	Recovered

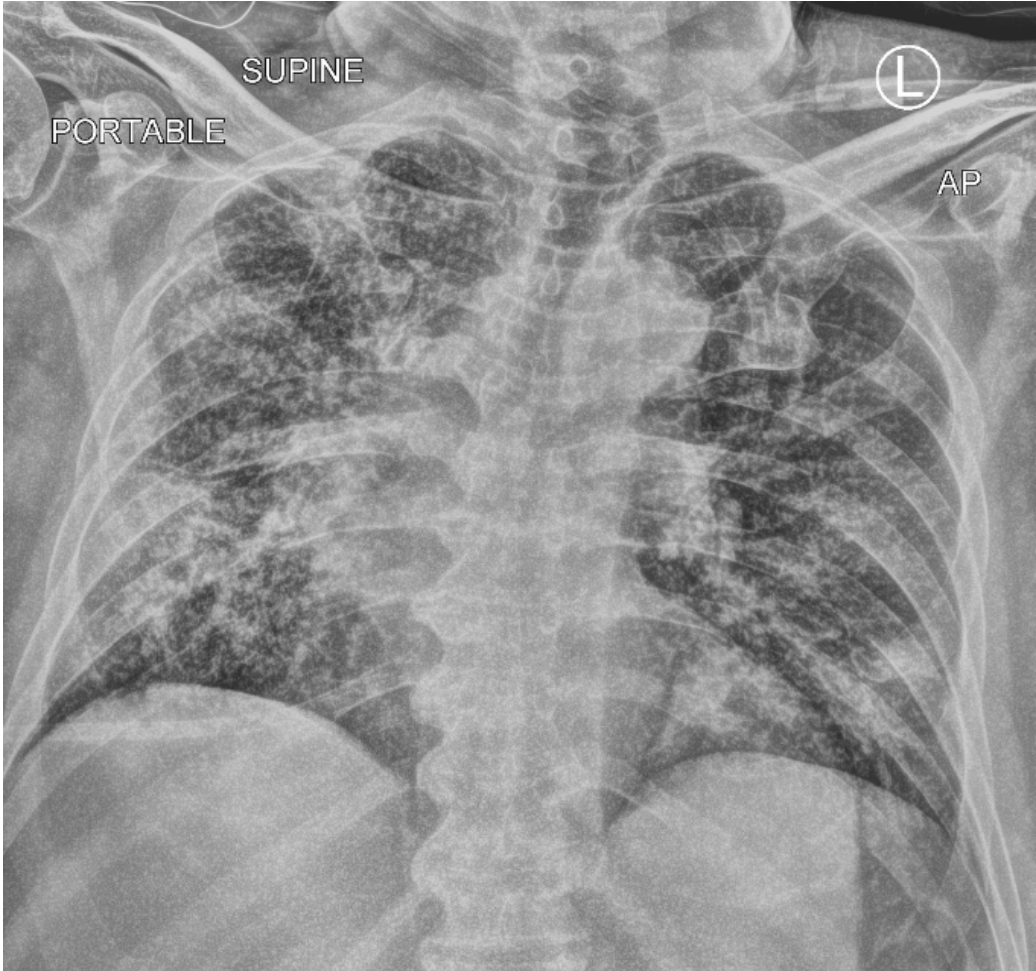
Case (Dr Rizvi): 73-Year-Old Man with mNSCLC and an EGFR Mutation

Age/ Gender	Diagnosis	Stage	Treatment	Smoking history	Prior Chest RT	Co-morbidities	Outcome
73M	EGFR exon 20	IV	EGFRi trial	No	Yes	None	Asymptomatic



Case (Dr Rizvi): 60-Year-Old Man with Stage IIIB SCC

Age/ Gender	Diagnosis	Stage	Treatment	Smoking history	Prior Chest RT	Co-morbidities	Outcome
60M	SCC	IIIB	Durvalumab	Yes	Yes	None	Deceased



Module 2: Clinical care of the oncology patient with confirmed COVID-19

- Diagnostic challenges in the lung
- Cases and clinical experiences at Columbia University Hospital
- COVID-19 at Massachusetts General Hospital — Effects on patient care

How did this affect our patients?

- Those that could not hold treatments (or didn't want to take on delays) continued therapy
- However, many patients delayed treatments, office visits, scans, biopsies, etc
- Clinical trial enrollment, collection of research samples, lung cancer screening were all scaled down

How did this affect our patients? (2)

- ~7% of our active lung CA pts were sent for COVID testing, of these ~50% were positive*
- Hospitalized COVID/cancer pts were not allowed visitors and initially could not access rehabs, hospice upon discharge (this is now changing)
- Among our lung cancer pts with COVID, there was a ~30% mortality*



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*Data in preparation by Drs. Gainor, Mooradian, Piper-Vallillo

Courtesy of Lecia V Sequist, MD, MPH

Radiology “quick-study” expertise - diagnosed some pts

47 F (no cancer) with cough, SOB



75 F with RUL lung adeno and chronic cough, getting restaging scans



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Courtesy of Lecia V Sequist, MD, MPH

The peak is over, but pts still experiencing:

Changes in Care
Environment

New Obstacles

Stress and Isolation



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Courtesy of Lecia V Sequist, MD, MPH

The peak is over, but pts still experiencing:

Changes in Care Environment

- Virtual visits mean that pts are either with family or with team, but not both
- More difficult to establish rapport
- More difficult to assess symptoms



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Courtesy of Lecia V Sequist, MD, MPH

The peak is over, but pts still experiencing:

New Obstacles

- ↑ inequities for low SES & older pts (access to devices, wifi, computer literacy)
- ↓ flexibility in schedule for pts
 - Potential ↑ risks of treatments
 - Potential ↓ avail of clinical trials



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Courtesy of Lecia V Sequist, MD, MPH

The peak is over, but pts still experiencing:

Stress and Isolation

- Limited life expectancy
+ loss of freedom
during this time very difficult
- Family may be distancing to keep pts safe
- Loss of financial security for many
- Anxiety, depression



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Courtesy of Lecia V Sequist, MD, MPH

Conclusions

- COVID-19 and the changes in society occurring over the last 3 months have had an enormous impact on the health and well-being of cancer patients
- I am hopeful because I see our field and our colleagues rising to the challenges and innovating solutions
- Calculating the impact of the pandemic must take into account more than just those who were diagnosed with COVID-19
- We must work hard to minimize the impact on research and clinical training

Module 3: Ongoing issues

- Telemedicine — Pros and cons, future cutbacks?
- Laboratory and clinical research

What proportion of your current outpatient care is telemedicine or virtual visits (phone, Zoom, etc)?

- a. Less than 10%
- b. 10%-20%
- c. 21%-40%
- d. 41%-60%
- e. 61%-80%
- f. Greater than 80%

Thank you for joining us!

**CME and MOC credit information will be
emailed to each participant within 5 days.**