COVID-19 & Lung Cancer: What do we know so far?



Virtual call between European countries
27/04/2020

Dr. Abed Agbarya



Participants

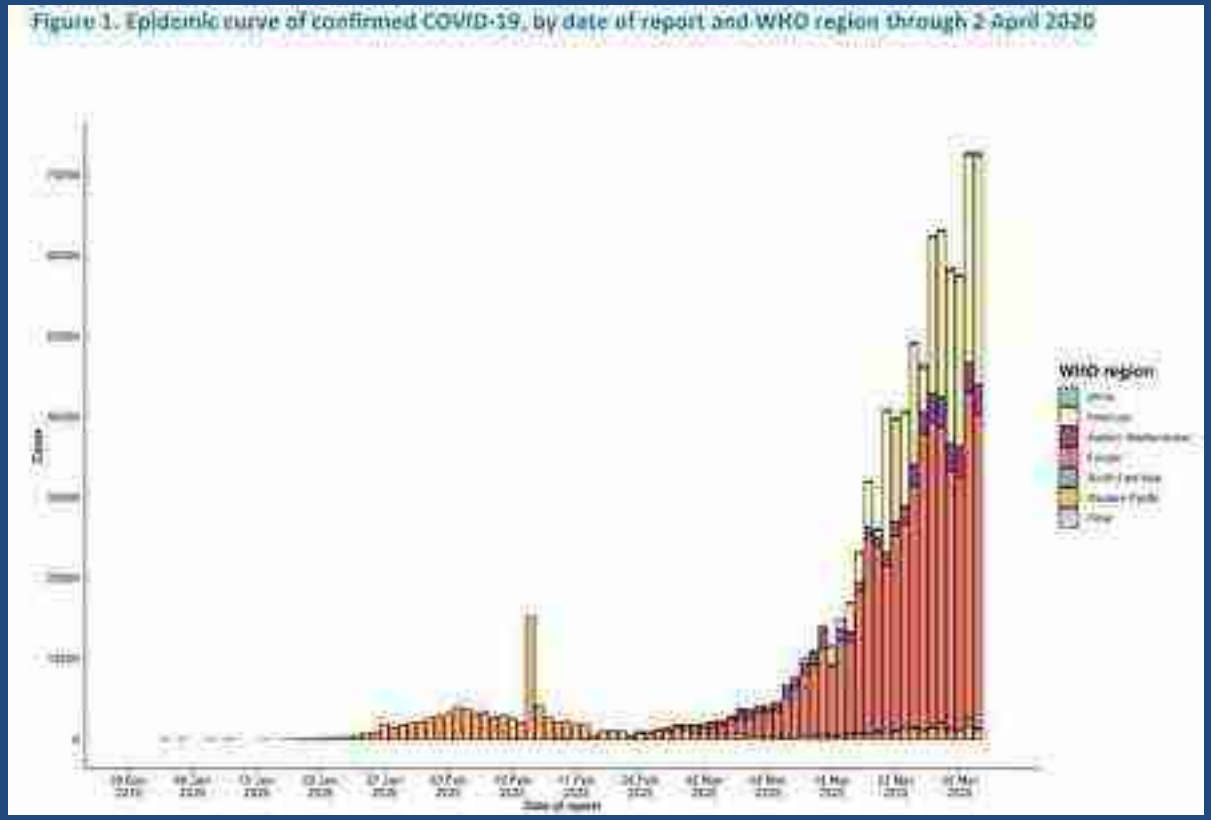
Led by: Dr. Abed Agbarya (Israel)

- Dr. Alfredo Addeo (Switzerland)
- Dr. Kristof Cuppens (Belgium)
- Dr. Adriani Charpidou (Greece)
- Dr. Marinca Mihai (Romania)
- Dr. Odd Terje Brustugun (Norway)
- Dr. Adam Pluzanski (Poland)
- Dr. Marko Jakopovic (Croatia)
- Dr. Mirjana Rajer (Slovenia)
- Dr. António Araújo (Portugal)

Agenda

16:00-16:10	Welcoming and self-introduction	All
16:10-16:15	Main impact of COVID-19 on lung cancer	Dr Agbarya
16:15-17:00	COVID-19 situation in each country & local practices	3-5 min each
17:00-17:15	Wrap up and concluding remarks	Dr Agbarya

Epidemic curve of confirmed COVID-19, by date of report and WHO region through 2 April 2020



- The situation is dynamic
- Huge differences in prevalence and mortality between countries
- The Time/Prevalence curve is different between countries

https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200402-sitrep-73-covid-19.pdf

COVID-19 & Cancer: What do we know so far?

- Higher risk of clinically severe events for patients who:
  - Has a history of cancer
  - Underwent chemotherapy or surgery in the past month
- Lung Cancer more common

- Small numbers of patients
- Retrospective data only
- Huge differences in results between studies(prevalence and outcome)

- Meta analysis: Prevelence-2%

- Early changes in lungs in asymptomatic patients
  - inflammation and cytokine-associated lung injury

Liang Wet al: Cancer patients in SARS-CoV-2 infection: A nationwide analysis in China. Lancet Oncol 21:335-337, Xu Z et al: Pathological findings of COVID-19 associated with acute respiratory distress syndrome. Lancet Respir Med [epub ahead of print on February 18, 2020; Erratum: Lancet Respir , Desai A et al. COVID-19 AND Cancer: Lessons From a Pooled Meta-Analysis. JCO Global Oncology 2020 :6, 557-55

COVID-19 Patients Presents Overlapping Symptoms

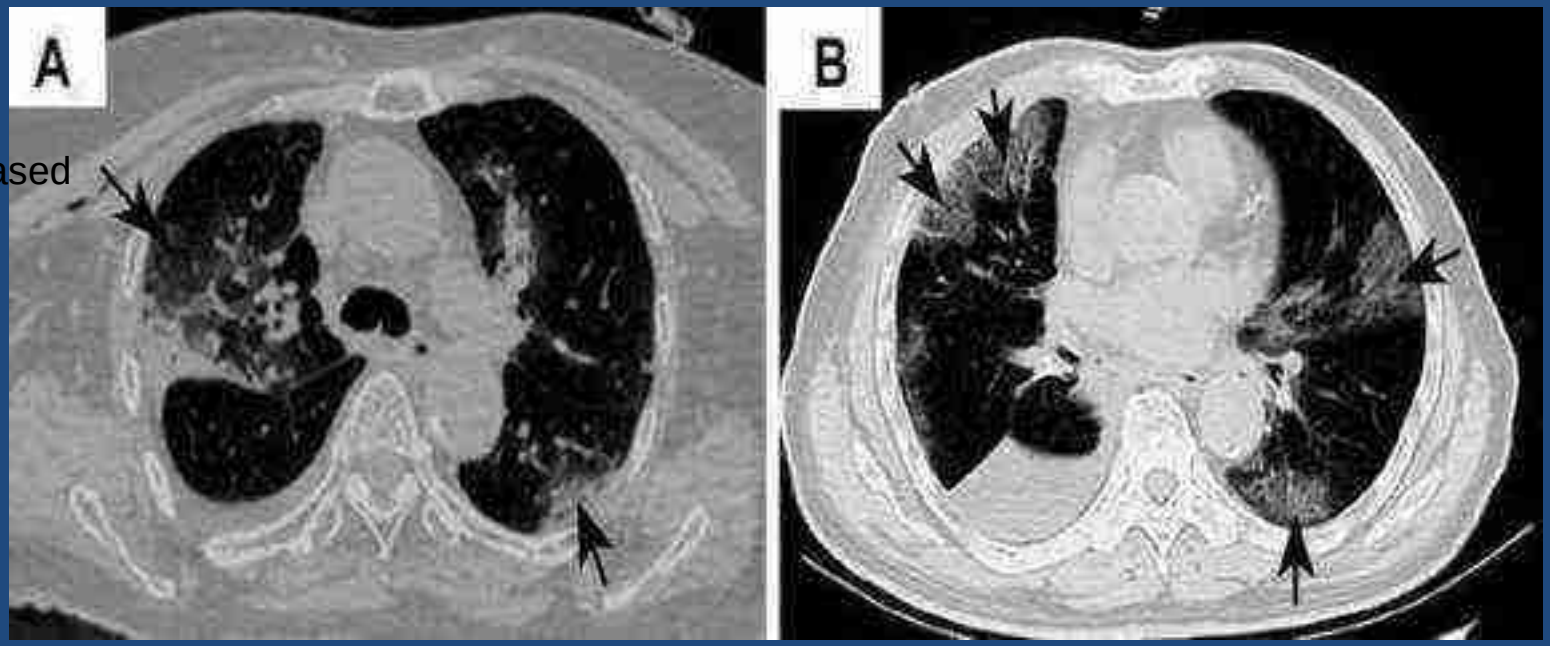
	COVID-19 pneumonia	Immunotherapy-related pneumonitis [6,7]	Radiation pneumonitis [8]	Infectious (non-COVID-19) pneumonia
Chest X-ray	Diffuse bilateral opacities	Many possible patterns, including diffuse bilateral opacities	Confined to region of treatment unilateral, diffuse if large volume of radiation used	Usually unilateral, confined to specific lobes
Fever	High	Low	Low	High
Dyspnea onset	Acute	Acute or slowly progressive	Slowly progressive	Acute
White blood cell count	Lymphopenia, neutrophilia	Variable	Lymphopania	Leukocytosis
Medical treatment	Not proven	Steroids, hold immunotherapy	Steroids, prolonged	Anti-bacterial or anti-viral mediations

Appel et al. IMAJ 2020

Radiology Changes of Early-Phase COVID-19 in Patients with Lung Cancer

Two patients who underwent lung lobectomies for adenocarcinoma were retrospectively found to have had COVID-19 at the time of the operation.

Their radiologic scans:



Increased GGO

Foci of GGO

Tian et al. JTO 2020

COVID-19 & Cancer: What do we know so far?

- As with other infectious diseases, people with compromised immune systems are at increased risk for COVID-19,
- Patients with cancer and cancer survivors remain an important at-risk population for COVID-19
- No evidence that COVID-19 patients could be at greater risk for radiation and IO -induced pneumonitis
- No evidence or recommendations exist regarding holding chemotherapy or immunotherapy or delaying adjuvant therapy or radiotherapy treatment in cancer patients

The COVID-19 Pandemic Is Still Ahead of Us



nature

NEWS

'We need to be alert': Scientists fear second coronavirus wave as China's lockdowns ease

Other countries on lockdown will be watching for a resurgence of infections in Hubei province now that travel restrictions are lifting.

Important Criteria for the Production of Guidelines

1. Reduce morbidity and mortality

2. Minimize disease transmission

3. Protect healthcare personnel

4. Preserve healthcare system functioning

Proposed Action Phases

A: No apparent community level COVID-19 transmission:

-Prepare your self (Community, Personnel and Infrastructures)

B: Community level COVID-19 transmission; health care service provision as normal:

- A and minimal modification of treatments.

C: Community level COVID-19 transmission; health care service capacity exceeded:

-Major modification of treatments including holding some treatments.

Weinkove R. et al. Managing haematology and oncology patients during the COVID-19 pandemic: interim consensus guidance. Med J Aust 2020.https://www.mja.com.au/journal/2020/212/10/managing-haematology-and-oncology-patients-during-covid-19-pandemic-interim

Recommendations(?)/Guidelines

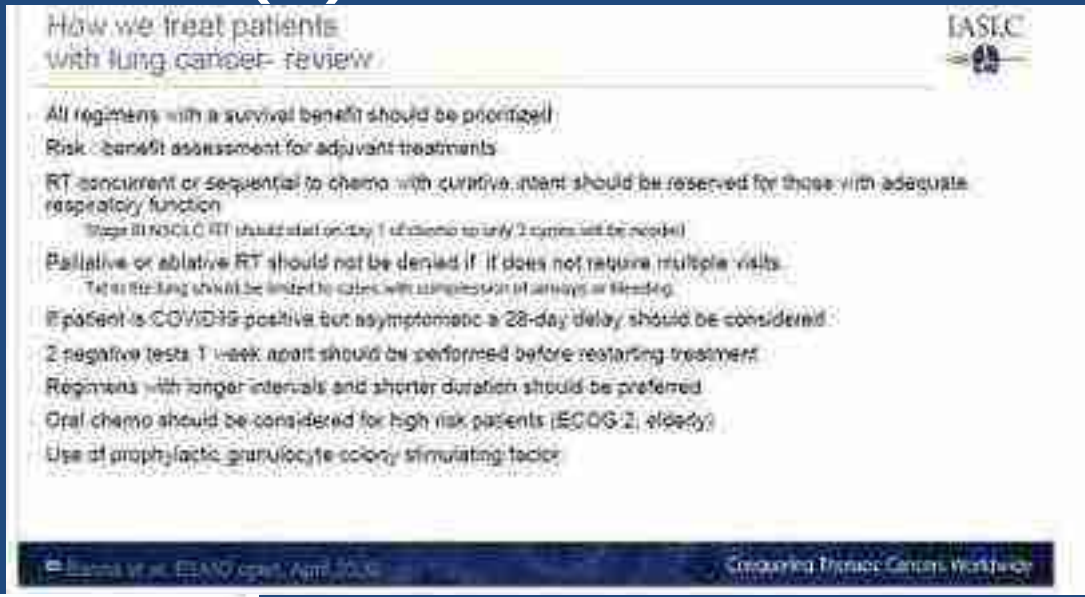
Rapid/interim

General

Dynamic

Retrospective

Not specific enough





Due to lack of strong evidence and the rapidly evolving situation, most guidelines emphasize that the treatment decision is according to the physician best clinical judgment

Modifications to usual anti-cancer treatment due to COVID-19 pandemic according to NICE guidance



NICE COVID-19 rapid guideline: delivery of systemic anticancer treatments [NG161] https://www.nice.org.uk/guidance/ng161 accessed 23 April 2020

Practical Suggestions to Treat Patients with Lung Cancer During the COVID-19 Pandemic

	Non-small cell lung cancer	Small cell lung cancer
1. *Should be started when possible*†‡	▸ NACHT for locally advanced resectable disease‡ ▸ Sequential/concurrent CHT/RT§¶ for stage III disease ▸ First-line treatment for metastatic disease ▸ Palliative or ablative radiotherapy (SBRT) outside the lung**	▸ First-line treatment for extensive-stage disease ▸ Concurrent CHT/RT§ for limited-stage disease ▸ Palliative or ablative radiotherapy (SBRT) outside the lung**
2. *Should not be stopped without justification*	▸ NACHT for locally advanced resectable disease‡ ▸ Sequential/concurrent CHT/RT§¶ for stage III disease ▸ First-line treatment for metastatic disease ▸ Maintenance ICI*	▸ Concurrent CHT/RT§ for limited-stage disease ▸ First-line treatment for metastatic disease
3. *Can be given preferentially*	▸ CT/RT for stage III disease ▸ Oral chemotherapy for ECOG PS 2 and elderly patients (instead of intravenous)	▸ Oral rather than intravenous chemotherapy
4. *Can be withheld or delayed after careful consideration*††	▸ Withhold ACHT in patients at significant COVID-19-related risk‡‡ ▸ Delay ICI (within 42 days) for stage III disease after CHT/RT ▸ Withhold maintenance pemetrexed ▸ Prolong intervals of ICI*	▸ Prolong intervals of ICI*
5. *Should not be started without justification*	▸ Third and beyond lines of chemotherapy in patients at significant COVID-19-related risk‡‡	▸ PCI (favouring MRI surveillance) ▸ Thoracic consolidation radiotherapy extensive stage ▸ Third and beyond lines of chemotherapy in patients at significant COVID-19-related risk‡‡

Banna et al. ESMO Open 2020



ESMO Clinical Practice Guidelines
ESMO Consensus Conferences
ESMO Clinical Practice Guidelines eUpdates An electronic update (eUpdate) will be produced in the following instances: - When important breakthroughs need to be rapidly communicated.
https://www.esmo.org/guidelines/esmo-guidelines-methodology



HIGH/MEDIUM/LOW
Outpatient visit priorities
Priorities for Lung Disease: Imaging
Priorities for Lung Disease: Surgical Oncology
Priorities for Lung Cancer: Medical Oncology – Early Stage Lung cancer
Priorities for Lung Cancer: Medical Oncology – Locally advanced Lung Cancer
Priorities for Lung Cancer: Medical Oncology – Metastatic Lung Cancer
Priorities for Lung Cancer: Radiation Oncology

https://www.esmo.org/guidelines/cancer-patient-management-during-the-covid-19-pandemic/lung-cancer-in-the-covid-19-era

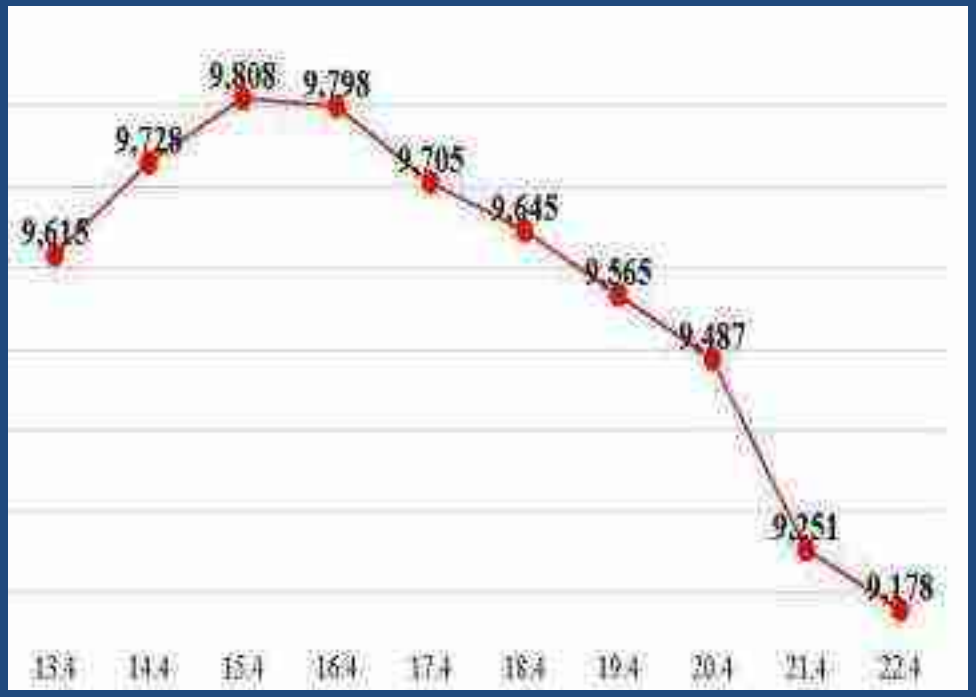


- Postpone Initiation of XRT:
  - Yes: PCI/PORT
  - No: St. III/LC SCLC/Palliative
- Hypofractionation:
  - Yes: Palliative
  - No: PORT/ LC SCLC/ PCI
  - St. III:
    - Yes: XRT alone/ Sequential
    - No: Conc. CT/RT
    - Doses: 50-60 Gy/15-30 fx.
- There was consensus in all cases to postpone initiation of radiotherapy until the patient becomes asymptomatic and the test for COVID-19 becomes negative

Current Open Questions

- Use of corticosteroids
- Efficacy of experimental treatments
- Timing of ventilation
- Specific risk factors associated with worse outcomes
- Biological mechanism of the gender difference (males are more likely for complications)
- Specificity and sensitivity of the serological test kits
- Children as infection vector
- Role of asymptomatic patients in spreading the virus
- The extent of risk for cancer patients

CASES IN ISRAEL



Actions taken in Israel- A four level plan

Staff and health care providers:

- Emergency Format in Hospitals between 23/03/20 – 12/24
- Oncology 12 h/6 days – Each 12 h is composed of 2 separate shifts
- 2 separate teams of staff
- Staff trained in using personal protective equipment
- Engaging in tele-health and WebEx meetings
- Providing COVID-19 hotline
- Restrictions, very early, on business travels for health care provider staff

Patients and Families:

- Screening for COVID-19 symptoms and travel history
- Minimizing follow-up visits and admissions
- Self Protection education including social distance in general and during transportation

Infrastructures:

- 2 six hours shifts every day to facilitate keeping distance of 2 m between patients
- Dedicated place for emergency cancer pts with suspected COVID-19

Disease and Treatment: (In collaboration with ISCORT and ILCG)

- Since the situation in Israel was graded as Phase 2:
- No major treatment cancellation was made
- Encouraging use of IO protocols with 4-6 weeks intervals
- Considering stopping some maintenance treatments
  Using GCSF
- Delaying radiological evaluation
- Using Tele-medicine for FU

Current Status

- Uncertainty on effect of COVID-19 on lung cancer patients
- Differences in onset and response between countries
- Differences in number of COVID-19 patients between countries
- Lack of data to support evidence-based guidelines on the management of COVID-19 and lung cancer
- Preparations for the 2nd wave of the pandemic

➢ Share best practices between our countries could and should make a difference