



Low-Dose Whole Lung Radiotherapy for Immunomodulation in COVID-19- Related Pneumonia

Ramesh Rengan, MD, PhD, FASTRO

Professor and Chair, Department of Radiation Oncology

University of Washington School of Medicine



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- This is a reasonable question to test in clinical trials
 - Inflammatory cells are very sensitive to radiation
 - Low-dose radiotherapy can act as an immunosuppressant and has been used effectively in inflammatory conditions such as arthritis, etc.
 - Early data suggest potential value of LD-RT in this setting

Does radiation therapy have value in the short-term clinical management of severe pulmonary inflammation caused by COVID-19?

- There are important caveats to consider, however
 - Questions about the magnitude of potential harm relative to benefit
 - Lack of clarity about what dose of radiation will be sufficient but also safe
 - Treatment may suppress immediate inflammation but also make patients potentially more vulnerable to secondary lung inflammation
 - Practical concerns bringing COVID-19+ patients into cancer clinics, where patients are particularly vulnerable to infection

Take Home Points

- Important early data suggesting potential value of LD-RT in this setting
- Need larger patient numbers and longer-term follow-up (3-6 months)
 - This is 10 patients of ~57,000 hospitalized with COVID-19 in US
 - Comparator data should be interpreted with caution as this was not randomized
 - Unclear whether LD-RT will provide additional benefit over better established therapies (convalescent plasma, mAB therapy, steroids)
- 15 ongoing multi-institutional prospective (some randomized) trials of LD-RT should provide guidance
- These trials will also provide important data on
 - Long-term impact of LD-RT in high-risk population
 - Radiotherapy workforce protection
 - Cancer patient exposure mitigation