



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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Contents lists available at ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

COVID-19 Rapid Letter

Response to: RILI model and the Covid-19 pneumonia: The radiation oncologist point of view [☆]



To the Editor

We thank the author for this letter and welcome the critical discussion on the potential of LDRT as a treatment for COVID-19 pneumonia. While indeed models for RILI may provide useful insight into COVID-19 disease progression, and successful treatments for radiation-induced lung injury may also be applicable to COVID-19-induced lung injury, this does not invalidate the hypothesis that low doses (<100 cGy) of ionizing radiation may provide a beneficial anti-inflammatory effect in the treatment of COVID-19 pneumonia. That the end points appear similar does not imply the system would respond to the low dose of radiation as if it had already been irradiated to some much larger dose. Generally, RILI effects appear to have a threshold near 5 Gy, specifically V5 > 26% [1], and this dose level is far above the maximum doses LDRT would deliver. The efficacy of LDRT for viral pneumonia remains to be investigated in modern, randomized controlled studies, but the potential benefit is high and the risks are low.

References

- [1] Ong CL, Palma D, Verbakel WF, et al. Treatment of large stage i-ii lung tumors using stereotactic body radiotherapy (sbrt): planning considerations and early toxicity. *Radiother Oncol* 2010;97:431–6.

Charles Kirkby ^{a,b,c,*}Marc Mackenzie ^d^a Department of Medical Physics, Jack Ady Cancer Centre, Lethbridge, Canada^b Department of Oncology, University of Calgary, Canada^c Department of Physics and Astronomy, University of Calgary, Canada^d Department of Oncology, University of Alberta, Edmonton, Canada

* Corresponding author at: Department of Medical Physics, Jack Ady Cancer Centre, Lethbridge, Alberta, Canada.

E-mail address: charles.kirkby@ahs.ca (C. Kirkby).

Received 22 April 2020

Accepted 26 April 2020

Available online 7 May 2020

[☆] The Editors of the Journal, the Publisher and the European Society for Radiotherapy and Oncology (ESTRO) cannot take responsibility for the statements or opinions expressed by the authors of these articles. Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds or experiments described herein. Because of rapid advances in the medical sciences, in particular, independent verification of diagnoses and drug dosages should be made. For more information see the editorial "Radiotherapy & Oncology during the COVID-19 pandemic", Vol. 146, 2020.