

## Supplementary Data

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March 20, 2020

Dr. Stephen M. Hahn, MD  
Commissioner of FDA  
United States Department of Health and Human Services  
Silver Spring, MD, 20993

Dear Dr. Hahn

### **0.5 Gy chest X-ray as a potential remedy for COVID-19 disease**

I urge you to consider a chest X-ray treatment of about 50 rad or 0.5 Gy. Since the 1920s, this was an effective remedy for a wide range of inflammatory and infectious diseases, including various types of pneumonia.<sup>1</sup> Therapeutic X-ray exposures were phased out in the mid-1940s when pharmaceutical remedies became available and were adopted as the preferred method of treatment. Such remedies are not yet available for COVID-19, so please consider radiotherapy. It is an old, but proven treatment for diseases that produce lung inflammation.

One exposure is expected to induce an anti-inflammatory phenotype that would begin to relieve the symptoms within a few hours. A recovery from unresolved pneumonia is usually observed within several days of the treatment. Table 1 in a historical review on treatment of pneumonia with radiotherapy shows a cure rate of 83% in 863 cases.<sup>2</sup> My recent article provides evidence that low doses of ionizing radiation upregulate innate adaptive protection systems.<sup>3</sup>

I recommend a short clinical trial of this radiotherapy for pneumonia in old patients, to confirm its efficacy, followed by a clinical trial of the same therapy for COVID-19. This could be carried out at the Hines VA Medical Center, with Chief Radiation Oncologist Dr. James S. Welsh as the principal investigator. I am willing to participate as a co-investigator. The trials could be started quite soon. Information on efficacy would be available days after the start of treatments.

If these studies demonstrate that old patients with COVID-19 recover quickly, this therapy could be introduced immediately. Appropriate radiation devices are already available in most hospitals.

Sincerely

A handwritten signature in blue ink that reads "J.M. Cuttler". The signature is written in a cursive style with a large, sweeping initial "J".

Dr. Jerry M. Cuttler, DSc

Copy: Dr. James S. Welsh, MD

References:

1. Calabrese EJ, Dhawan G, Kapoor R, Kozumbo WJ. Radiotherapy treatment of human inflammatory diseases and conditions: optimal dose. *Hum Exp Toxicol*. 2019;38(8):888-898.
2. Calabrese EJ, Dhawan G. How radiotherapy was historically used to treat pneumonia: could it be useful today? *Yale J Biol Med*. 2013;86:555-570.
3. Cuttler JM. Application of low doses of ionizing radiation in medical therapies. *Dose Response*. 2020;18(1):1-17.