

RESEARCH ARTICLE | NOVEMBER 14 2022

The similarities between severe COVID-19 infection and acute radiation syndrome: Literature review

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The COVID-19 pandemic has been going on for more than a year. COVID-19 causes asymptomatic infection, severe infection, until death. Diagnosis of COVID-19 infection is made by blood tests, antigen swabs, PCR, as well as radiology and CT-scan examinations. Severe COVID-19 infection shows similar symptoms to acute radiation injury. The paper aims to describe the similarity of severe infection COVID-19 and syndrome of acute radiation injury. This paper is a literature review. Literature was searched in the Science Direct and PubMed databases. The keywords were severe COVID-19 infection, acute radiation syndrome, similarity. The similarities between the pathophysiology of severe COVID-19 infection and acute radiation injury are cytokine storms. Symptoms of severe COVID-19 infection are *acute respiratory distress syndrome* (ARDS), hypoxia, and damage to the cardiovascular system. Researchers are trying to look for symptoms similar to this severe COVID-19 infection so they can find better prevention and therapeutic measures. Study of biological radiation has shown complex organ failure after exposure to high doses of radiation. This condition is called *the acute radiation syndrome* (ARS). Severe inflammation accompanied by cytokine storms causes severe symptoms of COVID-19 or ARS infection. ARS is diagnosed with a variety of biomarkers of radiation exposure. The similarity of symptoms and pathophysiology may be used to plan better

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treatment for patients with severe COVID-19 infection in the future.

The treatment would be the same.

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