

New research finds that COVID-19 can cause cancer, Alzheimer's disease and thyroid dysfunction

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As the COVID-19 pandemic continues its global rampage unabated, there is a growing body of research on the damaging effects the disease can have on virtually every organ system.

The *World Socialist Web Site* recently reported on a groundbreaking study which points to a mechanism of the virus that could potentially cause the irreversible fusion of brain cells. Three other recent studies have identified an association between infection with SARS-CoV-2, the virus that causes COVID-19, and the development of Alzheimer's disease, thyroid dysfunction and cancer. In each case, the effects can extend over long periods, indicating that the full impact of the pandemic will continue to unfold over decades unless a determined worldwide campaign is undertaken to stop it.

In all three of the recent studies, a common feature is the influence of the immune system reaction known as the "cytokine storm" which is caused by COVID-19. During the cytokine storm, the innate immune system causes an uncontrolled and excessive release of pro-inflammatory signaling molecules called cytokines. Normally, cytokines are part of the body's immune response to infection, but their sudden release in large quantities can cause multi-system organ failure and death.

In the case of Alzheimer's, rapid onset of the disease has been observed in a variety of patients, including young adults, suffering from COVID-19. The study found that the affected mechanism is known as the renin-angiotensin system (RAS), which regulates innate (as opposed to acquired) immunity, various microbiota (normally occurring microbial populations within the human body), and autonomic (involuntary or

unconscious) processes of the kidney, lungs and heart.

RAS exists in every cell in the body. The overstimulation of RAS has a number of consequences, including increased production of oxygen that kills cells, promotion of blood clots, promotion of the growth of blood vessels and tumors, arterial hypertension (high blood pressure), to name only a few. The last is particularly relevant to brain diseases such as dementia and Alzheimer's, since it causes vascular constriction, limiting blood flow to the brain, resulting in neurological damage.

The effect of SARS-CoV-2 on RAS is also being studied with respect to its potential to cause cancer. In a study titled, "Possible cancer-causing capacity of COVID-19: Is SARS-CoV-2 an oncogenic agent?" it is posited that the effects of a SARS-CoV-2 infection may be similar to other oncogenic (cancer-causing) viruses in their impact on the RAS system.

The study notes that other coronaviruses, including Middle East respiratory syndrome coronavirus (MERS-CoV), have already been demonstrated to lead to cancer. These viruses cause cancer by "altering tumor suppressing pathways by means of its nonstructural proteins, and triggering inflammatory cascades by enhancing cytokine production in the form of a 'cytokine storm' paving the way for the emergence of cancer stem cells in target organs."

Separate research conducted at the Karolinska Hospital, based on autopsies of individuals who have died from COVID-19, has demonstrated that a significant number showed evidence of Acute Respiratory Distress Syndrome (ARDS), which is the cause of death for 70 percent of such patients, resulting from cytokine storm.

The authors of the study linking COVID-19 to cancer conclude:

Experimental studies show that SARS-CoV-2 is able to induce re-infection/reactivation and persistent infection in the same manner as seen with other viral infections. One of the most worrying long-term effects of infection is the potential to induce malignant neoplasms [cancer], which will be a major health concern over the coming decades.

The study on COVID-19's effects on the thyroid, "Impact of Covid-19 disease on thyroid function: longitudinal study," was conducted under the direction of Dr. Ilaria Muller, assistant professor in endocrinology, Department of Clinical Sciences and Community Health at the University of Milan, Italy. The thyroid gland produces thyroid hormones which regulate a variety of body functions, including metabolism, heart rate, digestion and body temperature. Dysfunction of the thyroid can result in higher or lower hormone production which results in a range of serious negative effects.

The clinical study, which involved one hundred patients admitted to hospital for severe COVID-19, notes that the cytokine storm can adversely affect hormone production and produce inflammation of the thyroid.

In the short term, patients' thyroid function returned to normal once they recovered from the acute phase of the disease. However, in a follow-up study 12 months later, the researchers found regions of thyroiditis (inflammation of the thyroid) remained visible via thyroid ultrasound in half of the patient population. Furthermore, four out of six patients had symptoms of thyroiditis. Determination of the long-term impacts of COVID-19 on the thyroid are unknown and will require further study.

When viewed together with other long-term effects of COVID-19, such as irreversible damage to brain cells, and potentially others as yet undiscovered, it becomes abundantly clear that the "forever COVID" policy which has been implemented across the globe, prioritizing the short-term interests of private profit

over people's lives, is condemning humanity to progressively intensifying debilitation and death.

Only a worldwide program to implement a proven array of public health measures, along with the commitment of all necessary economic resources to sustain this effort, can avert this catastrophe. Such a mobilization is inconceivable under capitalism. Only the working class can implement the necessary socialist measures as part of a thorough transformation of society.



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