



COVID 19: A Risk Factor for Stroke and New Neurological Symptoms in Elderly

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The pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus has given a major thrash back to all aspects of life including society, culture, lifestyle, finance, and health. Exposure of this lethal virus has affected nearly all systems of human body and has given rise to numerous complications afterwards. It has seriously targeted the pulmonary, cardiovascular, and nervous system. Its serious implications on nervous system have been explained in recent studies (1). Coronavirus associates with different complications including stroke. The hypercoagulability or sepsis induced coagulopathy related to coronavirus disease of 2019 (COVID-19) can predispose an individual to cerebrovascular accident. This virus binds to the angiotensin-converting enzyme 2 (ACE2) present on the smooth muscles and brain endothelium. Diminution of ACE2 may contribute to elevation of angiotensin converting enzyme (ACE1) and angiotensin hormone which results in injury to tissues and stroke. The use of tissue plasminogen activator and heparinoids with low molecular weight can lower thrombosis and hence prevent mortality in COVID-19 affected patients (2).

Elderly population has been found to have more neurological complications associated with COVID-19 as compared to non-elderly population. The neurological disorders that may occur due to COVID-19 infection are headache, agitation, altered consciousness, dizziness, encephalopathy, myopathy, ataxia, Guillen Barre syndrome and stroke (3).

As the clinical progression is not predicted in such population, there are different clinical parameters which are responsible for greater risk of neurological complications in older subjects when exposed to SARS-CoV-2. They have wide-spread impact on lungs and require longer intensive care stay than younger people. Literature also suggest that older people have anemia, leukocytosis, lymphocytopenia and neutrophilia associated with the process of aging; and so, they can have even worse inflammatory syndrome with a rise in C - reactive protein, ferritin, fibrinogen, and D-dimers. This can also compromise their liver and kidney functions (4).

Hence, the COVID-19 infection does not only bring out the cardiac and pulmonary complications but may predispose the person to systemic impediments which can raise mortality in elderly. It has been recommended for the elderly to

be more cautious and follow the safety guidelines more strictly than the younger population. Post-infection measures are also needed to be well organized, and monitoring of the mentioned parameters should be done so that the appearance of stroke like symptoms could be dealt immediately before it endangers the patient's life.

References

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