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Biol 294

October 26, 2020

Coronavirus

Coronavirus disease or COVID-19 is an infectious disease caused by the SARS COV-2 virus and causes acute respiratory issues or in extreme cases, death. The corona virus is a virus typically found in animals such as camels and bats but has mutated in some form to infect humans. This virus has caused 18,946 deaths out of 424,048 cases as of March 25,2020 in the world. A previous coronavirus outbreak was back in 2002 called severe acute respiratory syndrome (SARS) which caused 812 deaths out of 8,439 cases. Coronaviruses works by hijacking cells in the body and entering host cells to reproduce and affect the respiratory system. The virus infects the lining of the throat, airways, and lungs which causes early symptoms of coughing and shortness of breath and later symptoms of fever, sweats, difficulty sleeping, and head and body aches. Coronavirus is usually spread through droplets of saliva or body fluids when an infected person coughs, sneezes, or talk.

According to the National Institute of Health, new studies conducted by scientists, have identified why some people develop severe and extreme diseases amplified by Coronavirus. These findings may also provide an explanation as to why more men die from COVID-19 than women. Studies conducted by scientist at the National Institute of Health have identified that 10% of people who develop severe symptoms and follow up diseases have misguided antibodies also known as autoantibodies that attack the body's immune system instead of the virus. Scientist were able to narrow down 3.5% of the 10% of people with autoantibodies, have a genetic mutation that affects immunity. Both groups lacked effective antibodies that rely on type 1 interferon which is composed of 17 proteins necessary from protecting cells and the body from viruses and disease. It is unsure whether the proteins have been eliminated completely from the autoantibodies or if the defective gene produces an inadequate amount of protein needed to fight off viral infections and disease. Either way, a lack of or reduced amount of protein has caused this group of people to suffer more than the average population and even die. This research is supported by the study done of 660 people who contracted severe COVID-19. They were found to have interferons that were lacking or completely devoid of the 17 proteins needed to protect the body's immune system. Finally, after conducting a study of 1000 people with severe Coronavirus, it was confirmed that 10% of that group, did in fact have autoantibodies against interferons and 95% of the 10% were male.

This article is connected to genetics solely on the fact that scientist have identified individuals with a rare genetic mutation that interferes with the body's response against viral infections and disease. Additionally, 10% of the sample group showed a lack of effective antibodies that depend on interferon 1 composed of 17 proteins that fight off infections. Scientists are still working to determine what kind of mutation is present and causing the lack of effective antibodies.

References

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