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ASSIGNMENT

COVID-19 is the ongoing viral pandemic in the world and the reason you are at home. Discuss the anatomical implication of this virus on the respiratory system of human

Answer

SARS-CoV-2, or COVID-19 is spread by droplets from an infected person's mouth when they cough, the droplets can come from their nose when they sneeze or you can pick it up by touching someone who is infected (for example, shaking hands), by touching a contaminated surface or by breathing in an infected person's respiratory secretions. Most people who get COVID-19 experience mild to moderate symptoms like coughing and high body temperature, or fever. These people generally recover. With other people, the virus gets deep into the lungs and causes a severe infection known as pneumonia.

Healthy lungs in living people are normally light, soft, and spongy, and fully occupy the pulmonary cavities. Also oxygen within these air sacs (alveolus) travels through to small blood vessels (capillaries). These tiny vessels, in turn, deliver the oxygen to your red blood cells. The wall of alveolus is very thin in a normal person so oxygen can easily get from the air space in between to the red blood cell. Worst cases of COVID-19 develop into a condition known as acute respiratory distress syndrome (ARDS). At this point the lung is full with fluids because this is the body's natural defense system trying its best to fight the infection by attacking the lung.

Viruses work by hijacking cells in the body. They enter host cells and reproduce. They can then spread to new cells around the body. Coronaviruses mostly affect the respiratory system, which is a group of organs and tissues that allow the body to breathe. Coronavirus typically infects the lining of the throat, airways, and lungs. Usually, the immune system will identify and respond to coronavirus early by sending special proteins, or antibodies, to fight the infection. The immune response to infection has side effects for the body, including fever. During an infection, white blood cells release pyrogens, a substance that causes fever.

The coronavirus damages both the wall and lining cells of the alveolus as well as the capillaries. The debris that accumulates because of all of that damages, lines the wall of the alveolus the same way paint would cover a wall. The damage to capillaries also causes them to leak plasma proteins that add to the wall's thickness. Eventually, the wall of the alveolus gets thicker than it should be," he notes. "The thicker this wall gets, the harder it is to transfer oxygen, the more you feel short of breath, and the more and more you start moving towards severe illness and possibly death.

Coronavirus can infect the upper or lower part of your respiratory tract. It travels

down your airways. The lining can become irritated and inflamed. In some cases, the infection can reach all the way down into your alveoli. The lungs infected exhibit edema, liquid proteinaceous secretions, fibrous connective tissue lesions with patchy inflammation, and multi nucleated giant cells.

In conclusion COVID-19 patients who developed acute respiratory distress syndrome are going to have scarring in their lungs which may not be reversible. These patients may have diminished lung function that's going to persist, including decreased exercise capacity that leaves them short of breath.

The immune system is working hard to fight the invader. This can leave the body more vulnerable to infection with another bacterium or virus on top of the COVID-19 — a superinfection. More infection can result in additional lung damage.