ABSTRACT

How to beat COVID-19: Know your enemy well

Nutri Virtual Symposium 2020
Nutrition Battling on Pandemic COVID-19: How to Survive

Santiago Herrero[1]
[1]Pacific International Hospital, Port Moresby, Papua New Guinea

Two days before the New Year 2020 a type of "pneumonia of unknown cause" appeared in Wuhan, capital of Hubei Province (China) a city it has an estimated population of 11 million inhabitants. Until then had not been determined the cause. The so-called unexplained pneumonia cases refer to 4 cases of pneumonia that cannot be diagnosed at the same time, but shared some clinical signs as fever (greater than or equal to 38^0C), cough, myalgia, fatigue and to a lesser extent sputum production, headache and diarrhea; imaging characteristics of pneumonia or acute respiratory distress syndrome; reduced or normal white blood cells in the early stages of onset, being the number of lymphocytes reduced as well. The clinical presentations resembling a viral pneumonia. Three days later, a total of 44 case-patients were reported to World Health Organization (WHO) not being identified the causal agent during this period. The National Health Commission of China identified a new type of coronavirus (2019-nCoV), which was isolated on 7th January 2020. WHO received further details on 11-12th Jan 2020 from that the outbreak come from exposures in one seafood market in Wuhan, named Huanan Seafood Wholesale Market in which wild animals (bats, snakes, pangolin, etc.) were being sold for human consumption. On the next day, China shared the genetic sequence of the novel coronavirus for countries for the developing specific diagnostic kits and the market was closed and disinfected. The mechanism of transmission among humans was demonstrated when the disease was found in patients who had not traveled or been at the source of the focus. The primary mode of infection in humans is human-to-human transmission, which generally occurs via respiratory droplets from infected individuals which they sneeze, cough or exhale.

The diagnosis till the current moment has been come through the clinical symptoms previously described joined to the test with real time reverse-transcription–polymerase chain-reaction (RT-PCR) for 2019 novel coronavirus 2019-nCoV, currently named officially "COVID-19" by the WHO last February 11, 2020.

Since the outbreak appeared, many new articles are describing the radiological findings about the COVID-19 obviously coming from the main Hospitals in Wuhan. The CT imaging features presented had bilateral involvement (98%). The typical findings were bilateral multiple lobular and subsegmental areas of consolidation in the ICU patients while in non-ICU patients showed bilateral ground-glass opacity (GGO) and other subsegmental areas of consolidation. The abnormalities involved both lungs in the 86% of the patients (in turn involving 4 to 5 lobes). The distributed lesions appeared in the lower lobes (90%), posterior part (89%) and periphery lung (91%). The main findings (pure GGO, GGO with reticular and/or interlobar septal thickening and GGO with consolidation were the 87%. Bronchograms in the 80% patients. Common images founded may overlap with other viral infections, such

ABSTRACT

H7N9, H1N1, SARS-CoV, MERS-CoV and even the avian influenza (H5N1) but the authors reported that predominant distribution in posterior and peripheral parts of the lungs were uncommon in other virus pneumonia.

The main feature of this disease is the intense inflammatory response involved in those patients suffering from the infection. Virtually any organ can be involved in inflammation, although we know that some organs and system are more represented in the disease, as the lungs, circulation, kidneys, and coagulation.

Anyone is at risk of contracting COVID-19 if exposed to the virus. Some people are more likely to become seriously ill than others, which means they may need hospitalization, intensive care, or respiratory support (respirator mask, high flow oxygen therapy, ventilators, etc.), and some may even die, mainly by severe respiratory failure. Those patients with asthma (moderate to severe), cardiovascular disease, cystic fibrosis, hypertension, immunosuppression, liver disease, pregnancy, smoker, thalassemia and diabetes (especially type 1) have a higher risk of getting sick and suffering the disease with more virulence and potential mortality. The older people are in risk because the chronical diseases and comorbidities are associate with the aging.

This presentation aims to explain the mechanisms of infection and inflammation by the coronavirus in order to act primarily on them. If you know your enemy well, you can treat it from an etiopathogenic perspective.

Corresponding author:
Santiago Herrero, MD
Pacific International Hospital, Port Moresby, Papua New Guinea