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Hypothesis on Management of Coronavirus Disease

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Abstract: Coronaviruses are ++strand enveloped RNA viruses with an unusually large genome. Viruses connect to cell surface with spike protein. The spike protein is has important role to recognizable part of the virus. Virus structure primary make CMI then humoral immunity. When the immune system makes Antibodies against to glycoprotein S (spike), they can disable the entire virus. Some of viral infections are endoparasits in human body cells and it might be make chronic damages. Most common symptoms diseases are: fever, cough, tiredness, loss of taste or smell. The golden standard Diagnostic Panel tests are Real-Time Reverse Transcriptase (RT)-PCR tests in all countries. The combination therapy include convalescent plasma (CCP), NSAIDs, paracetamol, codeine, corticosteroids, Herbal, antivirals, vitamins, systemic interferons, monoclonal antibodies against components of the immune system such as interleukins storm, other immune modulators, and monoclonal antibodies against components of corona disease.

Key words: Coronavirus disease, management, immune response, treatment, side effects.

1. Introduction

Research confirms that certain vitamins and minerals play a preventive and therapeutic role in fighting the coronavirus. Preventing exposure to the virus by self-isolating and staying at home, resting, and using NSAID only when you have a high fever, maintain social distancing, eat healthy, stay hydrated, and follow basic hygiene protocols. According to risks/benefits rules herbal medicines traditionally selected for “respiratory diseases” treatment. The studies discuss some herbal agents of various plants, including such Cinchona, *Curcuma longa*, and *Curcuma xanthorrhiza*, which are using for the treatment of corona disease. Sousage of curcuma tablets among diet looks like necessary for patients. Some of studies also showed that paracetamol, ibuprofen, and codeine as reference drugs. Clinical trials are investigating several agents, including emtricitabine plus tenofovir alafenamide or tenofovir disoproxil fumarate, hydroxychloroquine, ivermectin, and supplements such as zinc, vitamin C, and vitamin D are usefulness to treatment of disease. However extra usage of vitamins might be lead to cancer morbidity in future [1-3].

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2. Methods

2.1 Samples

For molecular PCR tests upper respiratory samples (eg, nasopharynx) are the standard for diagnosis. However lower respiratory samples, such as bronchoalveolar aspirate or lavage fluid, which samples are more sensitive than upper respiratory samples [4, 5].

2.2 Laboratory Diagnostic Tests

RT followed by real-time reverse transcription polymerase chain reaction (RT-PCR) is considered the gold standard test for the diagnosis of corona disease crisis. Therefore, low lymphocyte and platelet counts; low serum albumin levels; and increased serum levels of C-reactive protein (CRP), D-dimer, ferritin, lactate dehydrogenase, transaminases, and interleukin-6 can be found in risk stratification of Covid-19 severity.

CRP is an acute-phase protein of hepatic origin and increases after secretion of interleukin-6 by macrophages and cells. In the early stage of Covid-19 patients, CRP levels were significantly increased in coronavirus diseases. Some research showed that lymphopenia and an increase of acute phase protein such as CRP were clearly seen in patients of Covid-19 [6-9].

2.3 Serological Tests

High titers of IgG antibodies demonstrate a positive correlation with neutralizing antibodies, which detected by ELISA. Hereby this method individually or simultaneously detects both IgM and IgG antibodies in approximately few minutes. With blood samples of finger puncture without the need for advanced equipments or specialized professionals the antibodies of spike glycoprotein are analyzed [10].

2.4 Drugs and Treatment

Because chronically body pains are reported following of recovered patients. So it seems the combination therapy is necessary in contagious microbial diseases such as corona disease. Antioxidants such GSH and NAC have the potential to blocking of the oxidants action by scavenging ROS (reactive oxygen species) by inhibiting of oxidant generating enzymes. The glutathione (GSH) has central protective role against all oxidants, which is depleted in microbial infection. These are particular interest as an anti-COVID-19 agent. Antiviral remdesivir is drug choice to hospitalised adults with corona disease. However the use of intravenous immunoglobulin (IVIG) and methylprednisolone are recommended by specialist physicians. Some drugs including emtricitabine plus tenofovir alafenamide or tenofovir disoproxil fumarate, Anti cough drugs, Antiasthma drugs: ß2 salbutamol and serotide spray, hydroxychloroquine, ivermectin, curcuma and supplements such as zinc, vitamin C, and vitamin D are usefulness to treatment of disease. Using some injectable vitamins such as vitamin C and oral vitamin E and multivitamin and highly effective antioxidant drugs such as immunace syrup under the supervision of doctors are effective [11, 12].

2.5 Immunity and Vaccines

Cell-mediated immune (CMI)primary responses to viral infections involve $CD4^+$ T lymphocytes, ADCC, macrophages, natural killer (NK) cells, lymphokines: (IL)-1, IL-6, IL-8, IL-12, tumor necrosis factor (TNF)-α, etc. and monokines. Interaction of the B cell with macrophages and helper T lymphocytes, causes the B cell to differentiate into clones of antibody-secreting plasma cells, each capable of secreting antigen-specific immunoglobulin in secondary response. In addition, cytokine storms with high levels of IL-2R, IL-6, IL-10, and TNF-α will evident. However the serum of the recovered patients will be effective for new patients. When the results of PCR and IgM antibody tests are negative in everybody, the vaccination against Covid-19 is requirement. So remembering of vaccination stages might be lead to malignant in future [13, 14].

2.6 Diet and Foods

Several nutraceuticals have a proven ability of immune-boosting, antiviral, antioxidant, anti-inflammatory effects. These include Zn, vitamin D, vitamin C, curcumin, cinnamaldehyde, probiotics, selenium, lactoferrin, quercetin, etc. There are some proposed below mentioned to corona covid patients recovery. Bloated herbs to corona patient are at homes. Also feeding on fish meat and broth and soup from birds such ostrich, turkey… are recommended. Because Birds have resistance to coronavirus infection, it seems dieatation with their proteins make resistance of Covid-19 patients. The antibodies against microbe diseases have protein structure so the bird's protein might be human antibodies similar function and make increase covid19 patients immunity. Nutrition of fruits and birds proteins, because some of fruit juice has

diuretic and antipyretic function. When fruit juice consume by covid-19 patients, the temperature of them must be checked. Fruit juice include citrus have enrich of vitamin. Vitamin C has promotion of phagocytosis, contributes to the function of NKD (natural killer cells), and promotion to production of antibodies. There's some evidence that injectable vitamin C supplementation inhibits mortality by helping to prevent cytokine storms and immune functions, vitamin C has shown effective on sepsis, septic shock, and infected sepsis-induced acute respiratory distress syndrome (ARDS), all of them are reported in corona disease. Vitamin D participates the production of macrophage immune cells and increases phagocytosis. Then sufficient vitamin D with 10,000 IU/day for several weeks levels make to lower risk of acute respiratory infection. Vitamin E has potential antioxidant activity, and it's present in high concentrations in immune cells to help protect cells from oxidative stress damage. Vitamin E promote lymphocyte proliferation, make to the activity of natural killer cells, and phagocytosis. Also supplementation of zinc and vitamin C have preventive function of respiratory infections. Allicin is an organ sulfur compound obtained from garlic, Its biological activity can be attributed to both its antioxidant activity and its reaction with thiol-containing proteins. Allicin has been studied for its potential to treat various kinds of multiple drug resistance bacterial infections, as well as viral and fungal infections *in vitro* [4, 13, 15-18].

3. Results

Results of laboratory tests can increase the sensitivity of the diagnosis, prognosis, and monitoring of patients through the detection and measurement of different biomarkers. According to researches some of Laboratory finding were seen. Therefore, low lymphocyte and platelet counts; low serum albumin levels; and increased serum levels of C-reactive protein, D-dimer, ferritin, lactate dehydrogenase, transaminases, and interleukin-6 can be found in the risk of Covid-19 infection. Our prior study showed that the results of significant lymphocytopenia on peripheral blood smear in patients with coronavirus. It seems Indian and Chinese traditional medicine would be usefulness to helping treatment of corona Covid-19 patients [19].

4. Discussion

The microbe are killed by some of barriers, such as the epithelial layers in the gastrointestinal tract or respiratory tract, are physical; others are biological or chemical (antimicrobial molecules and the low pH of the stomach are two examples of chemical barriers).So after breaking of these barriers the virus may be enter to the body systemic circulation. Some of viral infections are endoparasits in human body's cells and they might be make chronic damages. Because viruses RNA can replace in human genomes and lead to new viruses strains by mutations. So chronically viral infection can lead to malignant in prospectus and it isn't far from imagine. Some of sign and symptoms of corona disease are common. Less common symptoms of Covid-19 disease are: sore throat, headache, aches and pains, diarrhea, a rash on skin, or discolorations of fingers or toes red or irritated eyes, Serious symptoms of corona disease are: difficulty breathing or shortness of breath loss of speech or mobility, or confusion chest pain. Our previously studies showed that the results of peripheral blood smear hematology tests showed a significant reduction in blood lymphocytes of coronavirus disease .In addition, the evaluation of serological tests confirmed a high level of acute phase CRP protein in blood serum of all coronavirus patients. CRP is a pentamer protein produced in the liver, and it is sent into the blood stream to deal with Inflammation and infection. So Patients with weakness and immunodeficiency must be treated for anemia and leucopenia [20-22].

5. Conclusions

Frequently hand washing also recommends reducing of the risk infection. People must use appropriate of personal protective equipment according to Centers for Disease Control and Prevention (CDC) recommendations. Restriction of exposure to the virus by staying at home, social distancing, eating healthy, hydrating and following basic hygiene protocol. People with mild sign and symptoms who are otherwise healthy should manage their symptoms at home. The importance of complete dieatation of proteins and carbohydrates and vitamins and minerals are recommended in these treatments. Drink warm water and herbal tea throughout the day. We must not forget consumption of garlic in corona disease. So chronically coronavirus infections make increase the incidence of malignant in prospectus after pandemic eradication [23].

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