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A Short Communication on CURCUMIN- A Golden Spice in Treating COVID

Ekta Khare, Sandeep Pandey and Ritesh Kumar
School of Pharmacy, I. T. M University, Gwalior, Madhya Pradesh, India

Abstract: Covid sickness 2019 (COVID-19) flare-up is a continuous pandemic brought about by serious intense respiratory condition Covid 2 (SARS-CoV-2) with impressive mortality around the world. The fundamental clinical indication of COVID-19 is the presence of respiratory side effects; however a few patients create extreme cardiovascular and renal inconveniences. There is desperation to comprehend the instrument by which this infection causes difficulties to create treatment choices. Curcumin, a characteristic polyphenolic compound, could be a potential treatment choice for patients with Covid infection. In this examination, we audit a portion of the likely impacts of curcumin, for example, repressing the section of infection to the phone, restraining epitome of the infection and viral protease, just as tweaking different cell flagging pathways. This survey gives a premise to additional innovative work of clinical utilizations of curcumin for the treatment of recently arose SARS-CoV-2.

Keywords: Curcumin, COVID-19 ,Receptor, SARS-CoV-2, Antiviral, Bronchodilator, Bradykynin

I. INTRODUCTION

According to the present time situation, Covid (Coronavirus) has become a difficult issue. The World Health Organization has detailed an increment in number of patients experiencing this because of their hypertension, heart, and lung issues. Right now, neither the antibody has found nor compelling enhancements are accessible. This depends in that patient need to have a decent invulnerability and less respiratory problems.

In the previous few months, results from the WHO's Solidarity Trial showed that remdesivir, hydroxychloroquine, lopinavir/ritonavir and interferon regimens seemed to have next to zero impact on 28-day mortality or the in-emergency clinic course of COVID-19 among hospitalized patients.

An upheaval of Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2) disease causes COVID-19 pandemic; with a huge number of cases and roughly 540 great many passings (WHO, 2020). The main articles about COVID-19 (from beginning infection up to now) and curcumin were chosen. We considered all articles of curcumin human and creature examines that could be powerful to treat or protect COVID-19-infected patients.

PubMed and Web of Science were utilized as information bases. As the significance of the subject, some chose papers were in the press. The catchphrases utilized for the inquiry were as per the following: coronavirus-19, COVID-19, SARS-CoV-2, curcumin, Curcuma longa, turmeric, curcumin and antiviral, curcumin and anti-inflammatory, curcumin and antipyretic, curcumin and lung, curcumin and intense lung injury, curcumin and weakness, curcumin and cancer prevention agent, curcumin and ARDS, curcumin and bradykinin, curcumin and fibrosis, curcumin and Interleukin-6 (IL-6), curcumin and tumor rot factor-alpha (TNF-α), curcumin and NF-κB, curcumin and Toll-like receptors (TLRs), curcumin and antiapoptotic.

Curcuma longa L (turmeric) is cultivated in tropical and subtropical regions. The largest worldwide producer of turmeric is India, where it has been used as a home-remedy for several ailments for ages [1–4]. Depending on its origin and the soil conditions where it is grown, turmeric contains 2%–9% curcuminoids. The word “curcuminoid” indicates a group of compounds such as curcumin, demethoxycurcumin and bis-demethoxycurcumin and cyclic curcumin. Out of these, curcumin is the major component, and cyclic curcumin is the minor component.

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- Molecular formula –$C_{12}H_{20}O_6$
- Other name- diferuloylmethane
- Physical appearance- bright yellowish color

II. Antiviral Impacts

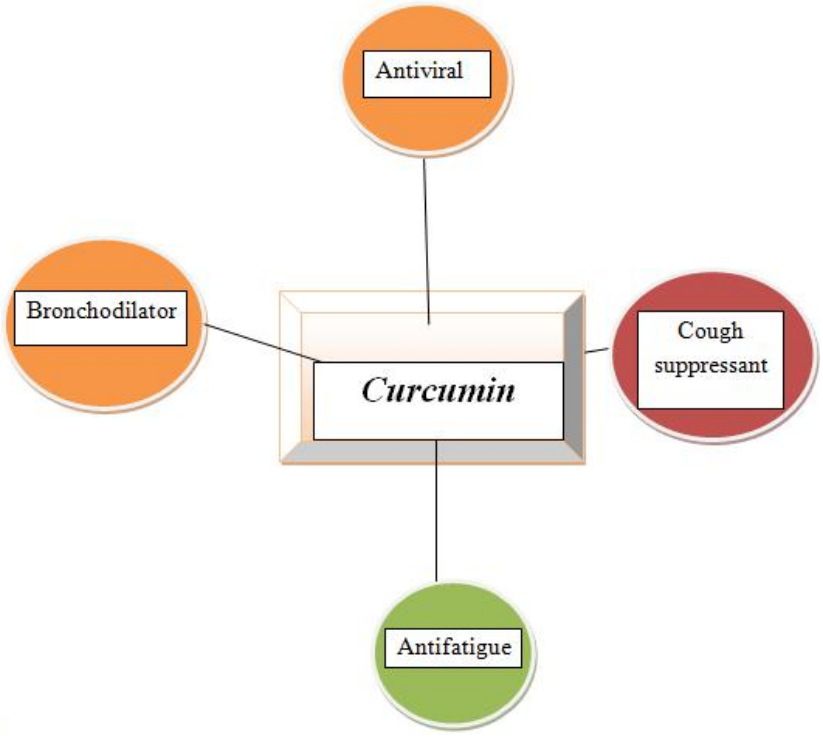
Curcumin forestalled the replication of SARS-CoV and restrained 3Cl protease in Vero E6 cells. Additionally, it essentially has an inhibitory movement against the cytopathogenic impact of SARS-CoV in Vero E6 cells. Curcumin was powerful against other infections, for example, flu An infection, HIV, enterovirus 71 (EV71), herpes simplex infection (HSV), hepatitis C infection (HCV), and human papillomavirus (HPV) with a few components that made it important for antiviral treatments.

As of late, it has shown that the change of curcumin into carbon quantum dabs could help antiviral impacts of curcumin with various components against EV71 in vitro and in vivo. The fascinating issue about carbon quantum spots is that it alone was powerful against human Covid (HCoV) by repressing the section receptor of HCoV-229E.

III. Bronchodilator Impact of Curcumin

Curcumin (20 mg/kg, p.o.) essentially hinders ovalbumin (OVA)-induced aviation route choking and aviation route hyperreactivity to histamine in sharpened guinea pigs. Likewise, curcumin (2.5 and 5 mg/kg, intranasal) fundamentally decreased bronchoconstriction in the mouse model of asthma.

Additionally, C. longa separate (1.5, 3 mg/ml) decreased tracheal contractile reaction to OVA and greatest reaction to methacholine in rodents. It additionally diminished interstitial fibrosis. Standard treatment with case curcumin 500 mg BD day by day for 30 days in patients of bronchial asthma essentially improved constrained expiratory volume one second (FEV1) contrasted and standard treatment. Notwithstanding, the mean scores for hack, dyspnea, wheezing, chest snugness, and nighttime manifestations were inconsequential. Curcumin is prescribed to use as an add-on treatment for bronchial asthma.



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IV. The Inhibitory Effect of Curcuminon Bradykinin as Cough Suppressant

Bradykinin has a significant job in the incendiary occasions during intense and persistent provocative illnesses like respiratory lot contamination and asthma. Besides, it appears to be that bradykinin could trigger hack in these incendiary infections or different conditions, for example, in patients with hack related with captopril and enalapril as ACE inhibitors.

Curcumin is an inhibitor of activated protein-1 (AP-1). Curcumin pre-vented the statement of IL-6 instigated by bradykinin in human aviation route smooth muscle cells through this hindrance. By the above analysis, we demonstrated that curcumin plays an important role in increasing the immune system and also maintains respiratory system. This research demonstrated that treatment with curcumin significantly delayed the stroke and increased the survival time. To sum up, this review shows that curcumin as an antiviral and anti-inflammatory agent can be helpful for both prevention and treatment of new emerging coronavirus. However, well-designed clinical trials are needed to demonstrate the potential efficacy of curcumin against SARS-CoV-2 infection and its ensuing complications.

Although the curative measure for covid-19 is in priority .Improvement of currently prescribed symptomatic treatments remains an important field of research. It can act as an important tool for medicinal chemists to develop newer compounds possessing this moiety that could be better agents in terms of efficacy and safety.

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