



The Probable Effect of “*Abrus pulchellus* subsp. *cantoniensis* (Hance) Verdc.” on COVID-19

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Dear editor

Abri Herba (Jigucào) derives from the dried plants of *Abrus cantoniensis* Hance which belongs to the Fabaceae or Leguminosae family. It is distributed in Guangdong, Guangxi, and Hunan. According to traditional Chinese medicine (TCM) theory, Jigucào has been used as a medicinal plant in tropical areas of Asia for thousands of years. This is classified as slightly bitter with properties to reduce fever, remove toxins, prevent jaundice, and pain killer, as well as to reduce inflammation [1].

Growing evidence has shown that *A. cantoniensis* possesses antibacterial, antiviral, and anti-inflammatory activities. Cheng et al. reported an inhibitory effect of *A. cantoniensis* on *E. coli* and *Pseudomonas aeruginosa* [2]. Yao et al. indicated the total saponins extracted from *A. cantoniensis* can suppress hepatitis B virus replication *in vitro* via elevation of interferon (IFN)- γ level in mice serum and CD4⁺ T cell percentage in splenocyte to enhance the phenylalanine metabolism pathway and tyrosine metabolism pathway [3]. Liao et al. identified *A. cantoniensis* with an anti-inflammatory effect on nitric oxide (NO) production on RAW 264.7 macrophages. It simulated with lipopolysaccharide and the cytokine IFN- γ to suppress the inducible nitric oxide synthase (iNOS) expression and enzyme activity. The IC₅₀ of *A. cantoniensis* for the inhibition of NO production was around 68.31 $\mu\text{g}/\text{mL}$ [4]. Coronavirus disease 2019 (COVID-19) infection is

caused by the severe acute respiratory syndrome coronavirus (SARS-CoV)-2 virus. It binds to an angiotensin-converting enzyme 2 (ACE2) receptor by spike glycoprotein. The transmembrane protease serine 2 (TMPRSS2) interacts with a disintegrin metalloproteinase domain 17 (ADAM17) causing the pro-inflammatory cytokines and chemokines to activate immune or inflammatory responses. Pulmonary edema occurs when lung vascular permeability increases with the high level of ACE2 expression [5]. Recently, several herbs in Persian medicine are proposed against COVID-19 through an ACE2-inhibitory activity [6].

Based on the TCM theory derived from *Huang Ti Nei Chin*, it should keep healthy and try not to become ill [7]. The righteous energy is sufficient for a healthy case, pathogens are unable to invade: Human body homeostasis, energy flow, blood and fluid circulation, endocrine secretion, organ, and visceral systems are efficient functioning which achieves yin-yang balance, “vital qi” with a strong capability to withstand pathogenic (evil qi) attacks. These principles are similar to western medicine which enhances immune system for preventing viral infection. The *in vitro* studies showed a novel potential immunomodulatory of polysaccharide fractions from the *A. cantoniensis* [8].

A. cantoniensis is a Chinese herbal medicine and is potentially able to combat COVID-19 because of its antibacterial, antiviral, immunomodulatory, and an-

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ti-inflammatory properties. Its therapeutic activities include antipyretic, immunomodulatory, and detoxifying effects. However, the safety assessment and dosage of *A. cantoniensis* in different TCM formulations warrant further studies, and the necessity of further experimental research to address this hypothesis is required.

Conflict of Interests

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