A review of Traditional Chinese herbal medicine in management of COVID-19

By Dr. Ananya Mandal, MDNov 24 2020

The COVID-19 pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has infected over 59.65 million people worldwide and claimed the lives of over 1.4 million. The virus, first detected in late December 2019 in Wuhan, China, is the most significant public health problem since the 1918 Spanish flu pandemic. There are no effective and safe drugs that can be used to treat COVID-19 disease nor vaccine to prevent SARS-CoV-2 infection. Since the first cases were detected in Wuhan, several traditional Chinese herbal medicines have been used to treat this infection.

Now researchers led by David Lee from Bio-Organic and Natural Research Laboratory, McLean Hospital, Harvard Medical School, Belmont have summarized the experiences with the use of traditional Chinese herbal medicines for the management of COVID-19. Their study titled, "Traditional Chinese herbal medicine at the forefront battle against COVID-19: Clinical experience and scientific basis," was published in the January 2021 issue of the journal Phytomedicine.



Background

China has a rich history of traditional herbal medicines. Traditional Chinese herbal medicine (TCM) has been used for over 5,000 in over 300 epidemics that the nation has faced. When the COVID-19 pandemic emerged early this year, treatment with TCM was reported to have been used with over 90 percent efficacy.

Study particulars

This study was a systematic review of several traditional Chinese herbal medicines that were used in Wuhan, looking at their efficacy in the management of COVID-19. At present, patients admitted to hospitals (except TCM hospitals) are primarily treated with western medicine as frontline treatment.

Principles of TCM use

The western medications used include antibiotics and painkillers. At present, over 100 herbal TCM formulae are available for use in epidemic related infections. Authors write, "TCM is now credited for the successful battle against COVID-19 in China".

The ancient Chinese medical text Huangdi Neijing explains that 12 meridian lines run through the human body and help balance the immune system and provide good health. The lung meridian line interconnects with the large intestine functionally and controls the body fluid (water). The researchers write, "Expelling phlegm and relaxing the bowels with laxatives are common methods for treating lung diseases. Therefore, maintaining a smooth and open channel is an important function served by the lung meridian line." Treatment of COVID-19 is basically to "expel the toxic moisture from the upper respiratory system and to improve intestinal obstruction." They added that the TCM method of treatment tries to maintain the balance of the lung meridian system and to restore the lung and large intestine balance using acupuncture and herbal medicine.

Treatment of COVID-19 using TCM

TCM has been used as a first-line treatment for COVID-19 disease since the emergence of SARS-CoV-2. Qingfei Paidu decoction for example, has been used in a three-day course leading to an over 90 percent efficacy.

The team of researchers wrote, "The Chinese government announced that TCM is one of the recommended therapeutic options for the treatment of COVID-19 in the third version COVID-19 treatment guidelines, published on January 23, 2020."

The two TCM formulae used in the early phase of the infection

- Ma xing shi gan decoction (MXSG) 4 herbs including Ephedra sinensis, Semen armeniacae amarum, Glycyrrhiza, Gypsum fibrosum have been used "for the treatment of lung heat, cough and asthma."
- Gancao ganjiang decoction (GCGJ) 2 herbs including Radix glycyrrhizae and Rhizoma zingiberis. "used for epigastric pain, acid vomiting, intestinal pain, abdominal drainage, chest and back pain, dizziness, asthma, menstrual abdominal pain, etc."

TCM for the treatment phase of COVID-19 infection

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- Qingfeipaidu decoction (QFPD) –includes 21 components:
 - Maxingshigan decoction, Wuling powder, Xiaochaihu decoctions, and Sheganmahuang decoction. The authors explain that it is useful in early, lightly, and heavily infected patients and also recommended for the treatment of critical patients. Overall efficacy is over 92 percent
- Sheganmahuang decoction (SMD) "9 herbs including Rhizoma Belamcandae, Ephedra sinensis, Rhizoma Zingiberis Recens, Asarum sieboldii, Radix Asteris, Flos Farfarae, Ziziphus jujube, Pinelliae Rhizoma Praeparatum Cum Zingibere, Schisandra chinensis seeds", useful in asthma.
- Maxingshigan decoction (MXSG) Reduces lung inflammation and improves the general condition in influenza and pneumonia. The authors write, "MXSG decoction acts on COVID-19 by targeting IL-6, TNF-α, MAPK-8, MAPK-3, CASP-3, TP53, IL-10, CXCL-8, MAPK-1, CCL-2, IL-1β, IL-4, PTGS-2, etc." It can thus help in severe COVID-19.
- Lianhuaqingwen capsule (LH) This contains "11 herbs including Fructus Forsythiae, Lonicera japonica, Ephedra sinensis, Semen armeniacae amarum, Isatis tinctoria, Rhizoma dryopteridis crassi rhizomatis, Herba Houttuyniae, Agastache rugosa, Rheum palmatum, Radix et Rhizoma Rhodiolae Crenulatae, and Glycyrrhiza, along with menthol and a traditional Chinese mineral medicine, Gypsum fibrosum". This is good as anti-influenza" and also has other properties, "antibacterial, antipyretic, analgesic, anti-inflammatory, cough relieving, phlegm and immune function regulating effects". It has been shown to prevent the replication of the SARS CoV-2 virus.
- Jinhuaqinggan granules (JHQG) It contains Honeysuckle and other components. Honeysuckle reduces "Toll-like receptor 3 and tank-bound kinase 1" caused by the respiratory syncytial virus infections.



Close up Honeysuckle flowers. Image Credit: lenic / Shutterstock

TCM during the recovery phase

Ginseng and Shengmai San were found to be useful among convalescent patients after COVId-19 recovery. Shengmai san improves blood circulation and heart function and helps recover from lung damage.

The top used TCM in COVID-19

- Glycyrrhiza
- Poria cocos
- Tangerine peel
- Ophiopogon japonicas

- Astragalus membranaceus
- Scutellaria baicalensis
- · Saposhniovia divaricata root
- $\bullet \ A tracty lodes \ macrocephala$
- Honeysuckle,
- Atractylodes lancea
- · Agastache rugosa
- Platycodon grandiflorus
- Fructus Forsythiae
- Rhizoma belamcandae
- · Szechuan fritillary bulb
- Semen armeniacae amarum
- Yam
- Radix glycyrrhizae,
- Poria cocos
- · Menthae Haplocalycis herba

Conclusions and implications

This literature review from the use of TCM among COVID-19 patients has shown that these herbal preparations may have direct antiviral activities. These preparations relieve two significant COVID-19 symptoms, lung congestion and diarrhea. The authors write, "There is good reason for us to learn from ancient wisdom and accumulated clinical experience, in combination with cutting edge science and technologies, to fight with the devastating COVID-19 pandemic now and emerging new coronaviruses in the future."

Journal reference:

David Y.W. Lee, Qing Y. Li, Jing Liu, Thomas Efferth, Traditional Chinese herbal medicine at the forefront battle against COVID-19: Clinical experience and scientific basis, Phytomedicine, Volume 80, 2021, https://doi.org/10.1016/j.phymed.2020.153337, https://doi.org/10.1016/j.phymed.2020.153337, https://doi.org/10.1016/j.phymed.2020.153337, https://doi.org/10.1016/j.phymed.2020.153337, https://www.sciencedirect.com/science/article/pii/S0044711320301690

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