

Mills and Bone Academy

Educational Article

Can Herbs Play a Useful Role in COVID-19 Infection?–

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The role of medicinal herbs in the management of COVID-19 infection has largely been ignored in the west. However, scientists in other countries have conducted a range of preliminary clinical trials, with mostly positive outcomes. More work is needed, but these promising developments should give encouragement that this neglected opportunity might provide credible options, instead of the controversial repurposing of conventional drugs. What follows is a brief review of some of the more promising lines of enquiry.

Andrographis

The Thai government is actively researching Andrographis following some positive preliminary results in people with mild COVID-19 infection. Quoting from an article in the Bangkok Post (green chireta is another name for Andrographis):

“After five days of treatment, more than 300 Covid-19 patients have been cured by fah talai jone (Andrographis paniculata) or green chireta.

“We are confident that fah talai jone can cure Covid-19 patients who have mild symptoms and are asymptomatic,” said Dr Kwanchai Wisitthanon, deputy director-general of the Department of Thai Traditional and Alternative Medicine. The figures above are from a recent study by the department.

“The medicine is safe to treat patients with,” he added.”

According to an article published in HerbalGram, in late December 2020 the government of Thailand approved a pilot study of the use of Andrographis to treat early symptoms and reduce the severity of COVID-19. Initially, the treatment will be available at five state-owned hospitals in Thailand on a voluntary basis for people 18 to 60 years old with minor symptoms and within 72 hours of symptom onset.

Molecular docking results showed a very strong affinity of andrographolide (a main phytochemical found in the herb) to the receptor-binding domain of the SARS-CoV-2 spike glycoprotein and SARS-CoV-2 RNA dependent RNA polymerase, with dock scores indicating andrographolide acts as an inhibitor

of the functionality of both these key viral proteins.

Nigella

A study from Pakistan (still undergoing peer review) found treatment with honey and *Nigella sativa* (also known as black cumin) alleviated COVID-19 symptoms within six days, compared to 13 days in the control group. In a multicentre, placebo-controlled, randomised clinical trial at four centres in Pakistan, 210 confirmed COVID-19 adults showing moderate or severe disease were enrolled in the study. They were randomly assigned to receive either HNS (honey (1 g/Kg/day) and *Nigella sativa* seeds (80 mg/Kg/day)) or placebo, for up to 13 days along with standard care.

HNS cleared the virus 4 days earlier than placebo group in moderate cases (6 versus 10 days, $p < 0.0001$) and severe cases (8.5 versus 12 days, $p < 0.0001$). HNS further led to a better clinical score on day 6, with normal activity resumption in 63.6% versus 10.9% among moderate cases ($p < 0.0001$) and hospital discharge in 50% versus 2.8% in severe cases ($p < 0.0001$). In severe cases, the mortality rate was four-fold lower in the HNS group than for the placebo (4% versus 18.87%, $p = 0.029$). No HNS-related adverse effects were observed.

Artemisia annua

The Madagascar government has touted *Artemisia annua* (containing the antimalarial phytochemical artemisinin) as a COVID-19 treatment, although the WHO warns there is an absence of clinical studies. Such a trial, using only artemisinin, is underway in India. The administration of the artemisinin is to be given in three cycles. Each cycle will see the patients

take in a capsule containing 500 mg of artemisinin per day for five days. They will then stop the intake for the next five days. If symptoms persist, they will repeat the treatment cycle for the second time. Interim results based on the first 60 patients have shown no report of adverse events and patients who received artemisinin recovered faster than those on standard care alone.

Artemisinin certainly has impressive and broad antiviral activity and verified bioavailability.

Curcumin

Speaking of India, a bioavailable form of curcumin (using the black pepper phytochemical piperine to achieve this) was tested in a recent controlled clinical trial. In addition to conventional COVID-19 treatment, patients in the control group received a dose of probiotics twice a day, and patients in the study group received curcumin (525 mg) with piperine (2.5 mg) in tablet form twice a day. Patients with mild, moderate and severe symptoms who received curcumin treatment showed early symptomatic recovery (fever, cough, sore throat, and breathlessness), less deterioration, fewer red flag signs, better ability to maintain oxygen saturation above 94% on room air, and better clinical outcomes. Furthermore, curcumin treatment appeared to reduce the duration of hospitalisation in patients with moderate to severe symptoms, leading to fewer deaths.

Traditional Chinese herbs

A meta-analysis of 19 clinical trials from China concluded that integrated Chinese and Western medicine improved the clinical symptoms, chest CAT scans and infection indicators in COVID-19 patients. Even if the treatment time was less than 2 weeks, the effect of integrated treatment in improving

symptoms was more obvious compared with conventional treatments alone.

An impressive recent study examined the value of a specific formulation in patients with severe to critical COVID-19. This was an open-label, multicentre, randomised, controlled clinical trial. At four medical centers, a total of 111 severe/critical patients were randomly assigned to receive Shenhuang Granule (SHG group) twice a day for 14 days, in addition to standard care, or to receive standard care alone (control group). Overall mortality was 75.9% (41/54) in the control group versus 38.6% (22/57) in the SHG group ($p < 0.01$). In the severe category, the mortality of patients who eventually received an invasive ventilator in the control group was 58.8% (10/17) versus 0 for SHG (0/19) ($p < 0.01$). Administration of SHG was associated with increased lymphocytes and decreased adverse events. The Shenhuang Granule is a formulation of the following raw herbs: 50 g of Panax ginseng root, 40 g of Rheum palmatum stem (Dahuang), 30 g of Sargentodoxa cuneata stem (Hongteng), 30 g of Taraxacum mongolicum whole plant (Pugongying), 50 g of Aconiti Lateralis Radix Praeparata stem (Fuzi) and 6 g of Whitmania pigra (Shuizhi) whole organism (a form of worm). The presence of aconite would make this formulation potentially toxic, although the preparation step reduces this substantially.

Ayurvedic herbs

A placebo-controlled, randomised, double blind pilot clinical trial was designed to evaluate the impact of a traditional Ayurvedic treatment regime in 95 patients with COVID-19 infection with initially no or mild symptoms. The Ayurvedic treatment comprised oral administration of 1 g of Tinospora cordifolia and 2 g of Swasari Ras (a traditional herbo-

mineral formulation) and 0.5 g each of Ashwagandha (*Withania somnifera*) and Tulsi Ghanvati (*Ocimum sanctum*) twice per day for 7 days. Patients in the treatment group also received four drops of Anu Taila (a traditional nasal drop) daily 60 min before breakfast, in each nostril.

By day 3, 71.1 % and 50.0 % patients recovered in the treatment and placebo groups, respectively. The treatment group witnessed 100 % recovery by day 7, while it was 60.0 % in the placebo group. Average fold changes in serum levels of the inflammatory markers hs-CRP, IL-6 and TNF- α in the treatment group were respectively 12.4, 2.5 and 20 times less than those in the placebo group at day 7. There was a 40 % absolute reduction in the risk of delayed recovery from infection in the treatment group.

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