



Does herbal therapy for COVID-19 have implications for forensic practice?

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SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) is a coronavirus that causes COVID-19 (coronavirus disease 2019). First identified in China in December 2019 it has subsequently been responsible for a pandemic. The rapid spread of the disease with associated morbidity and mortality has had disastrous effects globally. While vaccines and treatment protocols are currently being trialed, the impact on forensic services in certain countries has been profound, requiring the implementation of strict autopsy protocols and guidelines [1].

Another of the dramatic effects of the pandemic has been the proliferation of COVID-related publications, with an estimated 31,360 papers listed on Pubmed to July 2020 [2]. The leading publishing countries were the United States (5,033), China (3,511) and Italy (2,590) with the most popular journals being the British Medical Journal (574), the Journal of Medical Virology (317) and The Lancet (230) [2]. Disturbingly, along with the plethora of publications, referred to as a “paperdemic”, there have been a significant number of retracted articles with suggestions of academic mistakes, fraud and dishonesty in the rush to achieve publication status [2, 3]. The need for academic integrity and evidence-based research remains paramount [4].

Amongst the many publications now available online are a large number proposing the use of particularly Chinese herbal preparations for both the prevention and treatment of COVID-19 [5]. While it is quite likely that certain traditional herbal preparations may alleviate symptoms of infectious diseases such as myalgia and fever, the evidence that herbs can prevent infection with SARS-CoV-2 is less compelling. In addition, the recommendations are often for the use of preparations containing multiple herbs; for example Qingfei Paidu Tang is a combination of four different herbal mixtures containing 21 herbs [5]. It is well recognized that polyherbacy may be

associated with a greater risk of adverse reactions [6] and that certain traditional herbal preparations may be incorrectly labelled or adulterated with pharmaceutical agents or toxins [7–9]. Despite this it has been asserted that “no significant adverse effects” were found in a systematic review and meta-analysis of studies of Chinese herbal medicines used to treat COVID-19 in over 700 patients [10]. This is quite surprising, as it appears only logical that a therapeutic agent must have the potential for therapeutic side effects, and yet none were recorded. There is also little independent verification that essential oils can treat COVID-19 by penetrating and disrupting viral membranes [11].

It has been reported that the treatment of COVID-19 patients in Wuhan, China, with traditional Chinese medicines had “> 90% efficacy” and that the combined use of herbal preparations with Western pharmaceuticals is efficacious for certain respiratory symptoms in viral infections [12, 13]. However, it has been pointed out that this has not been supported by “high-quality, rigorously peer-reviewed clinical trials” “in internationally recognized journals” [14]. There are also risks of adverse herb-drug interactions. For example, a recent in vitro study demonstrated increased hepatotoxicity from acetaminophen (paracetamol) in cell culture in the presence of herbal compounds containing furanocoumarins [15]. As acetaminophen (paracetamol) would be a drug commonly used to treat the symptoms of COVID-19 infection this demonstrates the possibility of adverse interactions. These are all factors that may have an impact on cases that present for medicolegal assessment, although it is yet to be determined how significant this may be.

A review of the literature on the use of herbal preparations to treat children with COVID-19 has concluded that there is “no direct evidence on the efficacy of the herbal formulae for the treatment of pediatric COVID-19” [16]. This is an important observation as children should be treated quite circumspectly with herbal preparations as they may be more susceptible to the side effects due to their immature metabolic pathways and physiological processes [17].

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This editorial is in no way suggesting that traditional herbal preparations may not have a role in treating the symptoms of viral infections, but is instead drawing attention to the fact that herbal preparations do carry sometimes serious side effects and that these can be magnified by polyherbacy and the concomitant use of Western pharmaceuticals. All of this may impact upon medicolegal cases. Despite claims that herbal preparations can prevent COVID-19 infections and carry with them no side effects this has not yet been convincingly demonstrated [14]. There exists, therefore, a very real danger that community members may follow the advice of publications and internet sites that promote unproven theories and herbal use for COVID-19 with a resultant increase, rather than decrease, in therapeutic morbidity and mortality.

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