

Case Report

Is Acupuncture Efficient for Treating Long COVID? Case Reports

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Abstract

Long COVID can be defined as a set of symptoms appearing more than 28 days after a documented acute COVID-19. Among them, extreme fatigue and troubles of moods are the most common. To verify that acupuncture can efficiently alleviate long COVID, a chronic disease partly escaping to other treatments, especially fatigue and troubles of mood. To collect data pertaining to the patients included in the study as described in the STROBE guideline. To diagnose the clinical conditions of the patients using the *Nan jing* in order to choose the meridian and the points to be toned or dispersed depending on the observation of tongue and pulse. Acupuncture can greatly improve the troubles of patients suffering from long COVID after a reduced number of sessions (1 to 4).

Introduction

As pointed out by Mendelson, et al. [1], there is no internationally recognized definition of long COVID. It is generally admitted, however, that acute COVID may have a maximal duration of 28 days, with some symptoms possibly persisting up to a few additional days [2,3]. Beyond this delay, the persistence of symptoms for weeks or even months, such as fatigue or shortness of breath, not restricted to persons who suffered from acute COVID-19 and were hospitalized, are identified as signs of long COVID [4]. Symptoms generally decrease very slowly and do not permit a return to a stable, healthy state, within several months. In addition to fatigue and shortness of breath, patients can suffer from muscular pains, weakness, low-grade fever, cough, chest pain [5], headaches, cognitive impairment [6], and mood troubles, chilblain-like lesions, diverse kinds of rashes, myocardial inflammation, and even thromboembolic disease. Some of these symptoms are transient or recurrent. Some others, essentially fatigue, and anosmia, or more severe symptoms, are persistent [7].

Obviously, it is not possible to assign these symptoms to a single cause. Several pathogenetic factors can play a role in triggering these variable clinical conditions [8]. Genetic factors, obvious or subtle comorbidities, and possible persistence of viral replication may have a part in the development of these signs. About 10 % to 20 % of patients who experienced acute symptomatic COVID-19 enter the long COVID-19. Managing long COVID varies, depending on the symptoms; analgesic, and anti-inflammatory drugs, can be used for the mildest

cases; the most severe ones need to be treated for pulmonary, neurological, or cardiovascular complications [9].

In this paper, we present the cases of 4 persons who spontaneously consulted for an acupunctural treatment of their persistent symptoms, diagnosed as long COVID by their physicians, following a biologically and clinically identified acute COVID-19. They used to consult their acupuncturist for other troubles and trust him for his competence. We describe the initial and final state of the patients, together with the choice of acupunctural decision for successfully alleviating their clinical conditions. The clinical signs were those described in the *Nán Jīng* (难经). To the best of our knowledge, it is the first report on long-COVID 's treatment by acupuncture.

Methods

General description of the cases

Patients consulted for persistent symptoms which evoked long COVID-19. All have been diagnosed as suffering from acute COVID-19 after a PCR test and clinical examination by a physician, more than one month ago. Age, gender, occupation, and story of their disease were noted on their arrival at the consultation. Special attention was given to the dates of diagnosis, the appearance of symptoms, determination of clinical signs, treatment, accessory paraclinical checkups such as hematological parameters or chest tomography, and

More Information

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Submitted: October 09, 2024

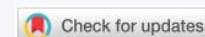
Approved: October 21, 2024

Published: October 22, 2024

How to cite this article: Lake D, Poindron P. Is Acupuncture Efficient for Treating Long COVID? Case Reports. Arch Case Rep. 2024; 8(3): 110-115. Available from: <https://dx.doi.org/10.29328/journal.acr.1001107>

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Keywords: Long COVID; Acupuncture; Meridian points; *Nan jing*



comorbidities. However, our patient could not precise the exact day of the onset of their acute disease. For this reason, we arbitrarily chose to date it at the beginning of the month they declared having been infected (Table 1).

Examination of the patients was done according to the recommendations of the *Nán Jīng* as translated into French by Ming Wang under the name of *Le livre des difficultés*. In particular, pulse and tongue aspects were carefully observed, in order to determine the acupuncture points (xué wèi, 穴位) to be chosen. At each consultation, the patient was invited to describe his/her symptoms, their improvement if any, and his/her opinion on his/her psychological condition, since this later subjective element was of crucial importance for him/her. In this paper, we used the term of symptoms in its occidental meaning: what a patient is saying about the trouble he is suffering from, and the term of clinical signs in its Chinese meaning, as described in the *Nán Jīng*. For each point chosen, we give the Chinese name and the official position as defined by French acupuncturists. One general picture is also given (drawing from Mrs LAKE) which indicates the positions of the needles used for the cases related here.

Choice of the needles

Needles used were made of copper or silver plated, depending on the inflammatory state of the patient. When a patient suffered from fire fullness (case N°1), silver-plated needles were used for the first sessions, in order to fight excess of yáng (阳). However, for other patients needles in copper were used. Needles (manufactured by Wujian Jia Chen, China, distributed by Phu-Xian, Paris, France) were made of copper, or were silver-plated, depending on the inflammatory state of the patient. When a patient suffered from a “fire fullness” (Patient N°1), silver-plated needles were used for the first session, in order to fight excess of yáng (阳). However, for other patients needles in copper were used. Moxa was furnished by Vert Nature (Teyran, France).

Case presentation

Case N° 1

A woman, 51 years old, was treated at home in March 2020 for respiratory insufficiency, accompanied by fever, moderate anosmia, and ageusia. An allopathic treatment (cortisone and ventoline) was almost unsuccessfully prescribed by her physician for long months to alleviate asthmatic crises which appeared after her COVID 19.

Table 1: General data concerning the patients having consulted for long COVID-19.

Age	Gender	Onset of the acute disease	First consultation	Last consultation
51	F	Marsh 2020	19 th of September 2020	17 th of October 2020
54	M	October 2020 (1 st week)	21 th of November 2020	21 th of November 2020
48	M	Nov-20	19 th of April 2021	19 th of April 2021
35	M	Marsh 2021	23 th of April 2021	10 th of May

Since the onset of her disease, the patient suffered from chronic fatigue with discomfort and respiratory insufficiency because of a “long COVID” as diagnosed by her physician. Her mood was altered; she chronically feared contaminating her neighbors and close relatives. She presented a marked lymphocytopeny. Curiously enough she did not lose her appetite and had a great attraction for fish, vegetables, and flavor of licorice.

On the first consultation (19th of September 2020), the clinical signs indicated that her radial arteries were superficial, with a rapid rhythm; her tongue was red and dry.

The points 7P (P for *poumon* in French; Lie Que, liè quē, 列缺) and 8P (Jing Qu; jīng qú, 经渠) were dispersed, the points 1P (Zhong Fu; zhōng fǔ; 中府), 7R (R for *rein* in French; Fu Liu; fù liū, 复溜) and 3E (E for *estomac* in French; Zu San Li; zú sǎn lǐ, 足三里) were toned (Figure 1, red arrows).

On the second consultation (25th of September 2020), the patient indicated that she slept a lot and noted respiratory improvement. She said her mood was ameliorated. Her pulse was always fast. The tongue was always red, but less dry.

The point 5P (Chi Ze; chǐ zé, 尺泽) was dispersed. The points 9P (Tai Yuan; tài yuān, 太渊), 6MC (MC for *muscle cardiaque* in French; Nei Guan; nèi guān, 内关), 6RM or JM (for Ren Mai; Qi Hai; qì hǎi, 气海), 6RTE (R for *rate* in French; San Yin Jiao; sǎn yīn jiāo,) , 12RM (Zhong Wan; zhōng wǎn, 中腕) were toned.

On the third consultation (10th of October 2020), the patient underwent a relapse of her symptoms; fatigue and troubles of mood was more intense. However, she suffered no longer from asthma crises. The pulse was less fast; its quantity and quality were correct. The color's tongue was normal and the organic liquid was homogeneous.

The acupuncture point 13V (V for *vessie* in French; Fei Zhu; fèi zhū, 肺俞) was dispersed, and the points 9P (see above) and 14DM (for Du Mai; Da Zhui; dà zhuī, 大椎) were toned.

On the fourth and last consultation, the patient said that they had no more asthma crises, and felt better, as well as physically and psychologically. However, she regularly was cold. The pulse had a regular rhythm, radial arteries were ample. The tongue had a correct shape, its color was pink, the organic liquid was homogeneous, and the lingual coating was correct. For this last consultation, the following points were chosen: 13V (see above; with moxa), 4DM (for Du Mai; Ming Men, míng mén, 命门), toned, with moxa), 23V (Shen Shu, shén shù, 肾俞, toned, with moxa)

The aim of our strategical choice was to treat the lack of energy associated with this disease, i.e tonify the qì (益气), regulate lung's yīn (肺的阴) and general yīn, in order to diminish the excessive heat due to viral infection (fēng, 烽). It is probable that the patient suffered from a lack of qì long

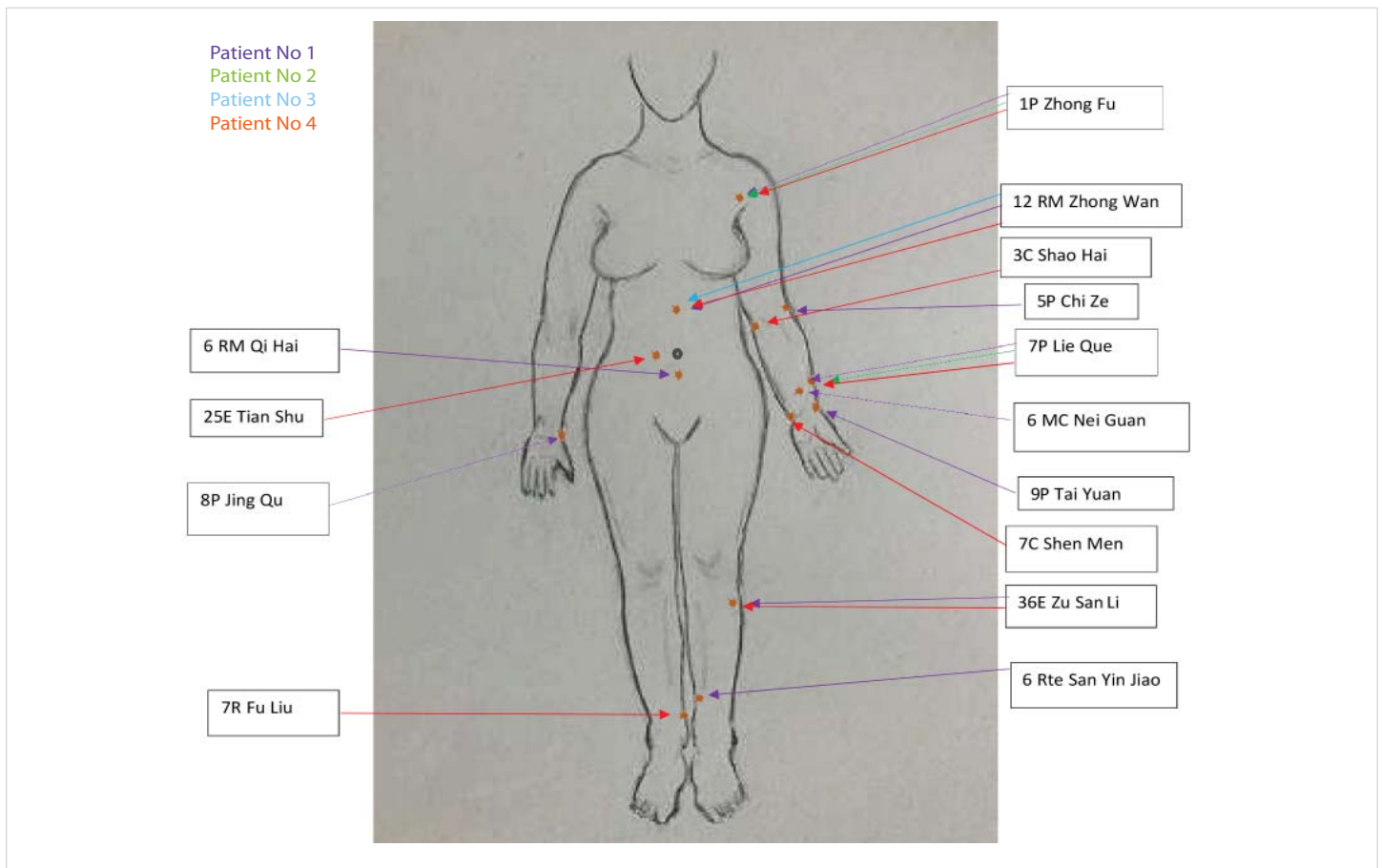


Figure 1: Acupuncture points chosen for the four patients.

before the onset of the acute disease. According to Chinese medicine, the lung masters the wèi (卫) which supports the cardiopulmonary eurhythmmy.

The first intervention aimed at restoring the lung's energy using the regulatory points 7P and 8P, alleviating asthma crises, reinforcing immune defenses, sustaining the yīn using the point 1P, toning up the kidney via the point 7R to decrease the heat and the point 36E, which is also called the point of the hundred diseases, to reinforce the whole organism.

On the 25th of September, the asthma crises, she said, were less frequent and less intense. She respired more easily. The lung's qi was almost restored. However, the disease did not disappear, since the rhythm of radial arteries remained rapid, even though the tongue's aspect suggested a decrease in the general heat of the organism. It is the reason why we chose point 5P to fight infection, point 9P to "feed the lung", and the combination of points 6MC, 6JM, 6RTE, and 12RM to tone and restore the general yīn.

On the third consultation, the patient said that they did not suffer from asthma crises, but remarked an important fluctuation in her physical and psychological condition, despite the positive and progressive improvement of the pulses we noted. The tongue's aspect was almost normal. This indicated a rather positive evolution of the disease. Since the

mood of the patient is deeply affected by the disease which is principally located in her lungs, we choose the point 13V to clear out infection of the respiratory tracts, point P9 to "feed the lung", and the point 14TM to act on the physical yáng and aimed at restoring the bodily energy.

On the 17th of October, the patient felt an important improvement of her respiration, and of her mood, characterized by a good appraisal of her health condition. She started again walking and resumed her professional work. However, she always was cold, probably because the quality and quantity of yīn and yáng should be equilibrated to adapt to this alleviation. Therefore, a reinforcement of the lung was done via point 13V, sustained with moxa and "calorification" by applying a combination of points 4DM and 23V, with moxa. This technique allowed the reinforcement of vital or essential energy (yuán qì; 元气) and avoided chronic resurgence of the symptoms.

Case N° 2

A man, 54 years old, suffered from diabetes since 2017. The exact date of the diagnostic was not communicated to the acupuncturist. He was affected by COVID-19 for 6 weeks and was followed by his physician, at home; during the acute phase, the patient presented various symptoms: loss of strength, muscle stiffness, fever, moderate anosmia, and

moderate cough for some days. The diagnostic was confirmed by a PCR test.

On the first consultation, dated 21st of November 2020, the patient was extremely tired but did not have any more symptoms of COVID-19. The only residual trouble, therefore, was persistent fatigue. He was an entrepreneur and had to rapidly start working again, he said. He was exhausted, so his productivity was largely diminished. He did not lose his appetite and did not suffer from abnormal thirst despite his diabetes.

The pulse of the patient, at that date, was completely empty. The tongue is long and thin; its coating was correct and the organic liquid was dense.

Points 7P and 13V were dispersed, point 1P was toned, and points 14DM, 4DM, and 23V were toned, with moxa. The only treatment was sufficient to make the fatigue disappear since the patient did not present inflammatory symptoms, but rather an empty qi, due to the viral infection.

The acupunctural treatment aimed at regulating the lung's meridian through the point liè quē which flows into the large intestine and purifying the lung through the point fèi shù, in combination with the point zhōng fū.

The points dà zhuī, with moxa, and the points mìng mén (door of the life) and shén shù, toned, allowed the patient to recuperate good physical and psychological conditions, as he told his acupuncturist upon a subsequent session, not linked to the treatment of his long COVID.

Case N° 3

The patient is a 48-year-old man. He contracted COVID-19 in November 2020. At that date, he suffered from fatigue, fever, full anosmia, and slight ageusia. He did not cough. His physician prescribed paracetamol to treat these symptoms.

On the first consultation, dated April 19th, 2021, the patient said that he had not recovered from COVID-19; he felt permanent fatigue, even in the morning, when he woke up, and suffered from nocturnal sweat, since November 2020. He did not present muscular pains or discomfort. His appetite was normal. He did not suffer from thirst.

The pulse is empty of yáng and wèi qì (卫气). The tongue is pale and its coating is white and wet.

The following points were chosen to fight these symptoms: the point 20DM (Bai Hui, bǎi huì, 百会) was toned, the point 12RM (see above) was treated by moxa, the point 14DM (see above) was toned, with moxa, and the points 4DM and 23V (see above) were toned, with moxa. This only session was sufficient to restore the health of the patient who could resume his profession as a hairdresser. He felt very productive in his daily life, as it was told to his acupuncturist by a close relative, some days after this session.

Case N° 4

The patient is a 35-year-old man. He suffered from asthma since his childhood and sometimes needed background treatment consisting of Seretide 1000 and ventoline. He contracted COVID-19 in March 2021 with repetitive cough, fatigue, anosmia, and ageusia (for three days). His physician prescribed paracetamol as a treatment for this rather mild COVID-19. However, on the 23rd of April 2021 (first consultation), the patient suffered from breathing respiratory; thoracic pain, and important chronic fatigue. His psychological condition was bad and the patient said that he was very anxious. Therefore, his physician had prescribed anxiolytic drugs.

Examination of the pulse showed that the lung was empty and the radial artery was without strength. The tongue has a white coating in the median and inferior foci. It had no strength in its movement, despite a correct shape, a normal amount of organic liquid, and a rather correct coloration.

For this first session, the following points were chosen: 12V (see above, dispersed); 13V (see above, dispersed), 1P, toned, with moxa; 4GI (for *gros intestin* in French; He Gu, hé gǔ, 合谷) toned, 12RM (see above, toned); 25E (Tiān Shū; 天枢, toned), 36E (see above) toned, cupping glass with moxa.

The lung of the patient was affected by the virus and the intense fatigue was due to his anxiety about his health condition. The clinical and tactile appraisal and the observation showed that the lack of energy, the origin of which should be the lung, was responsible for this state. Using point 12V (Feng Men; fēng mén, 风门) allowed to clear out the lung from the virus, originating from the exterior. The points fèi shù and zhōng fū toned the lung. The points hé gǔ, zhōng wǎn, tiān shū and zú sān lǐ (cupping glasses with moxa) toned the yáng míng (阳明) and reinforce the wèi qì (defensive energy)

At the second session, dated May 10th, the respiratory conditions were almost restored, and the thoracic pains disappeared. The consultant felt better. However, emotional reactions remained very sensitive to internal feelings, he said. Anxieties, notably, triggered emotional hypertension (18/8) and an acceleration of the cardiac rhythm. His physician attempted to reassure his patient, apparently unsuccessfully.

However, during this second session, the cardiac rhythm was found correct (five pulsations for one respiration, eighty pulsations per minute). The radial artery was ample and supple. The tongue was pink, the coating had a normal color, and its shape was "beautiful".

During this session, the following points were chosen: 3C (for *coeur* in French; Shao Hai; shào hǎi, 少海, dispersed), 7C (for *coeur* in French; Shen Men; shén mén, 神门, dispersed), 7R (see above, toned), 12RM (see above, toned) and 36E (see above; toned).

It was necessary to treat the anxiety of the patient in order to regulate his psychological condition. Although we did not see the patient for an additional consultation, the improvement of his clinical state was clearly improved.

Discussion

The first question to be asked is the following: did our patients actually suffer from long COVID? To answer this question, it is necessary to verify that they suffered from acute COVID-19, more than 28 days ago, when they consulted the acupuncturist for the first time. The criteria for retrospective diagnosis, according to Alwan and Johnson [3] were “(1) a positive SARS-CoV-2 PCR or antigen test during the acute phase ; (2) a positive SARS-CoV-2 antibody test at any time point in the absence of SARS-CoV-2 vaccination history; (3) the loss of sense of smell (anosmia) or taste (ageusia) during the acute phase in the absence of any other identified cause (4) symptoms consistent with SARS-CoV-2 during the acute phase AND high prevalence of COVID-19 at time and location of onset; (5) At least one symptom consistent with SARS-CoV-2 infection during the acute phase AND close contact of a confirmed case of COVID-19 around the time of onset.” Obviously, these criteria are not absolute since some patients did not have laboratory confirmation of the disease or were asymptomatic. Fortunately, our four patients have had a clinical and biological confirmation of their acute disease and they have had characterized symptoms of COVID-19, more than 28 days before the acupuncturist’s consultation. In order to verify that they actually suffered from long COVID-19, we compared (Table 2) their symptoms on the first consultation, to those described and analyzed by Nalbandian, et al. [7] (2021).

To the best of our knowledge, there is no report of long COVID-19 treatment by acupuncture. So, this paper is the first to suggest that acupuncture can be usefully applied for treating this invalidating complication. One of the most important points to be sure of the efficiency of this treatment is to ensure that the diagnostic of the physician is correct. We have taken enough information, as explained above, to ensure that the patients suffered from long COVID. The second point to mention underlies that many different symptoms can be associated with a well-established long COVID. This can be easily understood since the virus’s ACE2 receptors [10]

(angiotensin-converting enzyme 2; Hoffmann et al., 2020), which is widely expressed by numerous tissues, especially the lungs. It is probable that troubles associated with long COVID results from the interaction of the virus with these receptors, the abundance of which can vary from one subject to another (see et al. 2020).

As shown in Table 2, our patient obviously suffered from long COVID-19; there was a correlation between the number of sessions necessary to improve their psycho-physical state and the number of symptoms they presented on the first consultation (except for case N°4 which is a special one). It appeared that our patients all displayed two main classes of symptoms: chronic fatigue (and even exhaustion, case N°2) and muscular weakness, and trouble of mood together with anxiety and depression. The prevalence of these symptoms was observed by others in larger cohorts [8]. Anxiety was more or less intense depending on the patient but could reach (case N°4) a high level of intensity. Although anosmia and ageusia are not included in the criteria of Nalbandian, et al. [7] and were not mentioned in the study of Yelin, et al. [8], it is worth noting that patient N°2 presented a slight loss of smell, patient N°3, a loss of smell and a slight loss of taste and patient N°4 a loss of smell and taste. Therefore, these symptoms should be taken into consideration to diagnose long COVID-19, as observed by Moreno-Pérez, et al. [11] in their study of a Mediterranean cohort. Dysgeusia is also mentioned in a paper from Carfi, et al. [4] as a rare symptom of long COVID.

We have taken into consideration the integrative classification of Fernandez-de-las-Peñaz, et al. [12,13] who distinguish (1) a transition phase where symptoms potentially associated with acute COVID-19 last up to 4-5 weeks, (2) a phase 1 of acute post-COVID symptoms, persisting for 5 to 12 weeks, (3) a phase 2 of long post-COVID symptoms persisting, for 12 to 24weeks, (4) a phase 3 of persistent post-COVID symptoms which last more than 24 weeks. Applying this classification to our patients, we tried to correlate the duration of symptoms to that of acupunctural treatment. Patient N°1 has had symptoms persisting for seven months, which corresponds to phase 3 of the long COVID. She needed four sessions for her symptoms to disappear. Patients N°2 and 4 have had symptoms since 6 or 7 weeks, respectively (phase 1 of the long COVID). However, patient N°4 needed two sessions since he suffered from a greater number of symptoms than patient N°2. The case N°3 can be classified as a phase 2 long post-COVID. However, a unique session was sufficient to cure him. It is probable that he came to the office when his long COVID was declining. In this case, acupunctural treatment accelerated the recovery.

The choice of acupunctural points to be dispersed or to be toned aimed at restoring normal functions of the lung, as shown in Table 3, and was adapted to the personal state of the patient.

Table 2: Comparison of symptoms of our patients to those of long COVID-19 symptoms.

Nalbandian, et al.	Case N° 1	Case N° 2	Case N° 3	Case N° 4
Fatigue, decline in quality of life, muscular weakness, joint pain	Yes	Yes (with fever)	Yes (with fever)	Yes
Dyspnea, cough, persistent oxygen requirement	Yes	No	No	Yes
Anxiety/depression, sleep disturbances (brain fog), headaches	Yes	Yes	Yes (sleep)	Yes
Palpitations, chest pains	No	No	No	Yes
Thromboembolism	No	No	No	No
Chronic kidney disease	No	No	No	No
Hair loss	No	No	No	No

Table 3: Comparison of the points chosen for treating the four patients.

Points	Case N° 1	Case N° 2	Case N° 3	Case N° 4
1P	T ^a (1) ^b	T	—	T with moxa (1)
5P	D ^a (2)	—	—	—
7P	D (1)	D	—	—
8P	D (1)	—	—	—
9P	T (2, 3)	—	—	—
4GI	—	—	—	T (1)
25E	—	—	—	T (1)
36E	T (1)	—	—	T with moxa and cupping glass (1)
6RTE	T (2)	—	—	—
3C	—	—	—	T (2)
7C	—	—	—	D (2)
12V	—	—	—	D (1)
13V	D (3)	D	—	D (1)
	T with moxa (4)	T with moxa	T with moxa	D (1)
23V	T with moxa (4)	T with moxa	T with moxa	—
7R	T (1)	—	—	T (2)
6MC	T (2)	—	—	—
6RM	T (2)	—	—	—
12RM	T (2)	—	T with moxa	T with moxa (1,2)
4DM	T with moxa	—	T with moxa	—
14DM	T	T with moxa	—	—
20DM	—	—	T	—

^aT: toned ; D: dispersed. ^b number of the session where the point was chosen.

Conclusion

Therefore, as expected, there are no general recommendations to prescribe to the acupuncturists who would like to treat long COVID. The only point to be taken into consideration is the state of the lung which clearly is a major point to be treated, owing to the tropism of the SARS-CoV-2 for this organ.

We hope that these preliminary observations will encourage acupuncturists not to hesitate to apply their art to this very debilitating consequence of COVID-19.

Ethical considerations

The patients have given their consent to publish their anonymous data.

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