

Case Report

Volume 12 Issue 1 - May 2022
DOI: 10.19080/JAICM.2022.12.555829

J Anest & Inten Care Med

Copyright © All rights are reserved by Kamel Y

Traditional Chinese Acupuncture for management of Raynaud's Phenomenon Secondary to Severe Scleroderma-A Case Report



Kamel Y^{1*}, Pullman M², Mostafa Kamel Y³

¹Associate Professor Dalhousie University, Halifax, Nova Scotia, Canada

²Consultant Anesthetics, Sheffield Teaching Hospitals, Sheffield, UK

³Visiting Senior Lecturer Kings College, London, UK

Submission: April 26, 2021; **Published:** May 16, 2022

***Corresponding author:** Dr Kamel Y, Associate Professor Dalhousie University, Halifax, Nova Scotia, Canada

Case Report

Traditional Chinese acupuncture has been extensively studied and used for the alleviation of pain due to different conditions. Studies have shown it attenuates pain by the reduction of proinflammatory cytokines such as TNF α , IFN γ and IL-6. Acupuncture has proven to be effective for the management of pain resulting from inflammatory diseases such as rheumatoid arthritis and osteoarthritis [1,2].

Raynaud's phenomenon is quite often the first manifestation of the vascular system in scleroderma [3,4]. We report the case of a patient suffering from Raynaud's phenomenon in addition to severe vascular affection secondary to longstanding Scleroderma successfully treated by acupuncture.

A 56-year-old female patient had been suffering from scleroderma since 1989. Initially the patient suffered from cyanosis of the fingertips, which progressed to thickening of the skin of her hands, arms, and chest. One year after the initial diagnosis, the patient started to suffer from swelling and hyperaemia of her fingers and wrists, stiff joints, and a small rash on the nasolabial folds. This was the first time the patient showed signs and symptoms of scleroderma. Initially, the patient was treated with NSAID's, then Penicillamine 500 mg per day was added. The patient first showed some improvement of her symptoms, then over the course of the following 2 years, her cyanosis, pain, and stiffness worsened. The patient was treated with nifedipine which resulted in a minor improvement in her symptoms. Accordingly, the patient was switched to prednisolone and methotrexate. Additionally, the patient started to wear electrically heated gloves to help in controlling her symptoms.

By 1992, she started to suffer from ulceration of her fingers for which she received twice infusions of prostacyclin. This initially led to healing of the ulcers, but the skin soon broke down once again. At this stage she was weaned off her steroids, nifedipine was

restarted and methotrexate was replaced by cyclophosphamide which she continued until 1998. During this period, she received an infusion of Calcitonin Gene Related Peptide (CGRP) on 2 occasions. The patient's signs and symptoms were controlled for several years.

In 2000, with the recurrence of her symptoms she underwent digital sympathectomy in the left hand, yet still she suffered from recurrent digital infarcts and ulcerations.

In 2002 she was diagnosed with pulmonary fibrosis secondary to scleroderma. By 2010 she had lost almost half of her terminal phalanges on all her fingers with severe distortion and/or destruction of her nails. By 2013, she had completed 26 sessions of hyperbaric oxygen therapy over 1 month and was treated with mycophenolate, sildanefil and bosentan, the latter of which helped significantly for a period of time following which her condition started to deteriorate and her severe pain started to recur again.

Various analgesics were tried to help with her increasing pain such as Fentanyl and Buprenorphine patches which resulted in minor improvement of her disease. Treatment with Pregabalin minimized the sensitivity around the fingertips.

By the time she was referred to the Palliative Care team for the trial of treatment with acupuncture, she was complaining of severe pain in both hands. After detailed explanation of the procedure including the expected benefit and side effects, the patient consented for the trial of acupuncture to control her pain. The patient underwent 6 acupuncture treatment sessions over a period of 6 weeks. The sessions consisted of the application of 4 needles inserted to a depth of 1 cm in the following classical acupuncture points in both hands: heart 7, Large Intestine 4, Pericardium 6 and Lung 7. Each was manipulated for almost 30 seconds and each session lasted for 20 minutes.

After 3 sessions, she started to report improvement in the form of reduction in pain, and a decrease in cyanosis and digital discoloration was noted. After 6 sessions she was able to return to some of the normal activities e.g., driving her car comfortably. She was kept under follow up for 4 months with sustained benefit.

Scleroderma is a rare yet severe connective tissue disease of unknown etiology. The incidence was reported to be around 20 cases per million [4]. The hallmark of scleroderma is the excessive production and accumulation of extracellular matrix components and collagen. This results in the characteristic features of fibroproliferative vasculopathy, endothelial cell damage, extensive fibrosis ultimately leading to tissue dysfunction. Autoantibody production may also occur with a predominance of anticentromere antibody [3-5].

Other organs, such as the lungs, could also be affected by the disease resulting in pulmonary fibrosis and pulmonary hypertension that could be severe, potentially resulting in respiratory failure and death. It could also involve the kidneys and the gastrointestinal tract, resulting in renal crises and oesophageal dysmotility respectively [6].

According to one study, the 9-year survival rate in patients with major organ involvement was 39% rising to 72% in patients with minimal or no organ involvement [7]. Pulmonary fibrosis and pulmonary hypertension cause more than half of the deaths occurring for patients diagnosed with scleroderma.

There is a significant contribution of the vascular system in the pathogenesis of scleroderma. This includes vasospasm, vascular thrombosis, and occlusion. This also results from the interaction between the extracellular matrix, circulating mediators, vascular smooth muscles, and endothelial cells [4]. With the exception of cyclophosphamide, there does not appear to be other immunosuppressants (including corticosteroids) or antifibrotic agents that are effective in controlling the disease, despite their widespread use.

Complementary and alternative therapy were tried for the treatment of Raynaud's phenomenon. This include antioxidants, biofeedback, essential fatty acids, L-arginine, *Ginko Biloba*, Laser, glucosaminoglycans, and therapeutic gloves [8].

Traditional Chinese acupuncture has been used effectively for the treatment of primary Raynaud's syndrome where there is no underlying aetiology. This encouraged us to try acupuncture to control this patient's secondary Raynaud's syndrome occurring as a result of scleroderma [9]. Likewise, the relatively poor response to available therapeutic modalities whether medical or surgical, and after review of the literature, we felt that the patient's condition warranted a trial of acupuncture for pain and other symptoms resulting from her Raynaud's syndrome.

Based on this case, we would advocate further assessment of acupuncture treatment for Raynaud's syndrome secondary to scleroderma being a safe, inexpensive and possibly beneficial option for the patients.

References

1. Appiah R, Hiller S, Caspary L, Alexander K, Creutzig A (1997) Treatment of primary Raynaud's syndrome with traditional Chinese acupuncture. *J Intern Med* 241(2): 119-124.
2. Ho-Lin L, Ching-Mao C, Po-Chun H, Jia-Chie W, Yen-Ying K (2022) The effects of acupuncture and related techniques on patients with rheumatoid arthritis: A systematic review and meta-analysis. *J Chin Med Assoc J Chin Med Assoc* 85(3): 388-400.
3. Hunzelmann N, Krieg T (2010) Scleroderma: from Pathophysiology to Novel Therapeutic approaches. *Exp Dermatol* 19(5): 393-400.
4. Pattanaik D, Brown M, Postlewaite AE (2011) Vascular Involvement in Systemic Sclerosis (Scleroderma). *J Inflamm Res* 4: 105-125.
5. Rongioletti F, Ferreli C, Atzori L, Bottoni U, Soda G (2018) Scleroderma with an update about clinico-pathological correlation. *G Ital Dermatol Venereol* 153(2): 208-215.
6. Uddin M, Mir T, Surapaneni S, Mehar A, Dar T, et al. (2022) Scleroderma hypertensive renal crisis among systemic sclerosis patients: A national emergency department database study. *Am J Emerg Med* 53: 228-235.
7. Steen VD, Medsger TA (2000) Severe organ involvement in Systemic Sclerosis with diffuse scleroderma. *Arthritis Rheum* 43(11): 2437-2444.
8. Malenfant D, Catton M, Pope JE (2009) The Efficacy of alternative medicine in the Treatment of Raynaud's phenomenon: a literature Review and Meta-analysis. *Rheumatology (Oxford)* 48(7): 791-795.
9. Omole F, Lin J, Chu T, Sow CM, Flood A, et al. (2012) Raynaud's Phenomenon, cytokines and acupuncture: a case report. *Acupunct Med* 30(2): 139-141.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/JAICM.2022.12.555829](https://doi.org/10.19080/JAICM.2022.12.555829)

Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full Text, Audio)
- Unceasing customer service

Track the below URL for one-step submission
<https://juniperpublishers.com/online-submission.php>