

By Transmitting Electric Currents with Different Frequencies to Probe into the Frequency Response of Foot-Yangming Stomach Meridian

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Abstract

Background and Aims: The purpose of this research was to search into Traditional Chinese Medicine (TCM) to discover the frequency response phenomenon of the channel meridian by sending the electrical signals in different frequencies into the channel meridian. The electrical signals flowed through the channel. Comparing the measured output signals with the original signals the frequency response could be resolved. On the first attempt, we focused on Foot Yangming stomach-channel only.

Materials and Methods: After receiving the approval from the Institutional Review Board (IRB), the study has enlisted 30 healthy male volunteers as the tested subjects. The subjects' ages are within 20-35 years old.

All subjects took acupunctures on Foot Yangming stomach channel at Zu-San-Li, Xian-Gu and Feng-Long three acupoints. The signals in different frequencies were sent into this channel from Zu-San-Li and outflowed on Xian-Gu. We measured the electrical signals at Feng-Long, half way between Zu-San-Li and Xian-Gu. By comparing the measured signals with the originals we received the frequency response of the channel. The frequency was controlled in the 1-90 Hz region.

Results and Conclusions: The experiment results showed that there were three different kind of frequency response curves, monotonically rising (46.7%), monotonically decreasing (12.5%), and resonance shape (45.8%). The curves of the resonance peak revealed their resonance frequencies lying between 5~20 Hz. The rising or decreasing curves might indicate the resonance frequencies located below 1 Hz or above 90 Hz, which meant there might be at least three different types of body patterns. We need further studies to confirm such hypothesis.

Keyword: Traditional Chinese Medicine (TCM), channel meridian, frequency response, resonance