

CLINICAL STUDY

Optimization of parameters of Yi Zhi Chan Tuina manipulation promotes peripheral circulation

Fang Lei, Fang Min, Jiang Shichao, Chen Hua

Fang Lei, Shanghai University of Traditional Chinese Medicine, School of Rehabilitation Science, Shanghai 201203, China

Fang Min, Jiang Shichao, Chen Hua, Department of Tuina, Yueyang Hospital of Integrated Traditional Chinese and Western Medicine, Shanghai 200437, China

Supported by the National Basic Research Program of China: Basic Theoretical Research on TCM Featured Therapy (973 Program, No. 2007CB512701), the Research Program of State Administration of Traditional Chinese Medicine: Traditional Chinese Tuina Industry Specific Research Program (No. 200707013), and the National Science Foundation for Distinguished Young Scholars of China: Science of Tuina (No. 81025022)

Correspondence to: Prof. Fang Min, Department of Tuina, Yueyang Hospital of Integrated Traditional Chinese and Western Medicine, Shanghai 200437, China. fm6505928@vip.sohu.com

Telephone: +86-21-65161785; +86-13482528578

Accepted: November 24, 2014

Abstract

OBJECTIVE: To explore the most effective parameters of Yi Zhi Chan Tuina manipulation for improving peripheral blood circulation.

METHODS: A total of 45 volunteers were recruited from Pudong district in Shanghai, China, from October to December 2010, and randomly divided into nine groups using computer-generated random numbers. Participants received Yi Zhi Chan Tuina manipulation on Chengjin (BL 56) acupoint; each group received a particular combination of manipulation force and treatment time. We used a two-factor, three-level factorial design to examine the effects of force and treatment time on changes in popliteal artery average volume flow, pulsatility in-

dex, and vessel diameter to determine the optimal parameter group. Outcomes were assessed at baseline and after Tuina manipulation by interviewers blind to treatment group status.

RESULTS: After manipulation, two of the nine groups showed an increase in popliteal artery volume flow. An inter-participants effect test showed that for main effect of time, $F = 0.331$, $P = 0.720$; for main effect of force, $F = 2.934$, $P = 0.066$; and for the force-time interaction effect, $F = 1.072$, $P = 0.385$, indicating no interaction between force and time. However, a pairwise comparison of the three levels of time showed that a treatment time of 10 min was significantly more effective than that of 2 min ($P = 0.024$). A pairwise comparison of light force, medium force, and heavy force showed a statistically significant effect for medium force ($P = 0.035$).

CONCLUSION: Yi Zhi Chan Tuina manipulation with vertical force of 9.31 N for 10 min is most effective in improving peripheral circulation.

© 2015 JTCM. All rights reserved.

Key words: Yi Zhi Chan Tuina manipulation; Regional blood flow; Pulsatility index

INTRODUCTION

Yi Zhi Chan Tuina manipulation is a classical Chinese Tuina manipulation technique. It involves using the thumb to continuously apply alternate light and heavy forces to acupoints by swinging of the wrist joint to achieve a collateral dredging effect, and it is widely used in clinical practice.¹⁻³ Tuina doctors may adjust the force (light, medium, or heavy) and duration of

manipulation according to patient's conditions. However, different manipulation forces and durations produce different collateral dredging effects.⁴ We used a force-time two-factor, three-level factorial design to investigate the optimal collateral dredging effect of Yi Zhi Chan Tuina manipulation and to optimize the clinical manipulation parameters.

MATERIALS AND METHODS

Participants

We used a two-factor design with three levels to each factor: force (light, medium, and heavy) and duration of treatment time (2, 5, and 10 min). We observed 45 participants; a sample size of more than five times the number of factors. We randomly recruited 20 male participants from Shanghai University of Traditional Chinese Medicine and 25 participants from Yueyang Hospital from October to December 2010. All participants were divided into nine groups using computer-generated random numbers. The participants were male, aged 18-40 years, with a mean age of (26 ± 5) years. The study was approved by the Ethics Committee of Yueyang Hospital of Integrated Traditional Chinese and Western Medicine (Approval No. 2012-19). All participants gave their written, informed consent. Tuina practitioners who were each chief physicians with over 30 years' clinical experience, agreed to perform the study and were free to withdraw at any time. Activities that aggravated the upper limb were forbidden 24 hours before the experiment.

Inclusion criteria: the inclusion criteria were: healthy,

18-40 years old, and male. Exclusion criteria: The exclusion criteria were: (a) smoking or drinking habits; (b) disagreeing to participate in this study; (c) injury or amyotrophy in the lower limbs; (d) severe life-threatening primary diseases or mental diseases. Withdrawal and rejection criteria: The criteria for withdrawal or rejection were: (a) not meeting the inclusion criteria after inclusion in this study; (b) early withdrawal or lost to follow-up; (c) development of diseases and receiving other treatments and medical interventions during this study, both of which might have affected participant responses.

Tuina manipulation intervention

A two-factor, three-level factorial design was used to test different manipulation force-time combinations. When testing, doctors applied light, medium, or heavy force to Chengjin (BL 56) at participants' musculus gastrocnemius for 2, 5, or 10 min (The force-time combinations for the nine groups are shown in Figure 1.) All participants were allocated to a manipulation force-time combination group using computer-generated random numbers to ensure concealment of participant allocation, maximize procedure repeatability, and to increase the comparability between groups. Immediately after testing, we measured participants' popliteal artery volume flow three times in order to avoid measurement errors, noting the mean value and average volume flow gain ratio, which was $(VF_{\text{after}} - VF_{\text{before}}) / VF_{\text{before}} \times 100\%$ (Figure 1). All test data were collected by clinicians to reduce errors and enhance reliability.

Outcome measures

A Vivid 7 Dimension systemic color Doppler ultra-

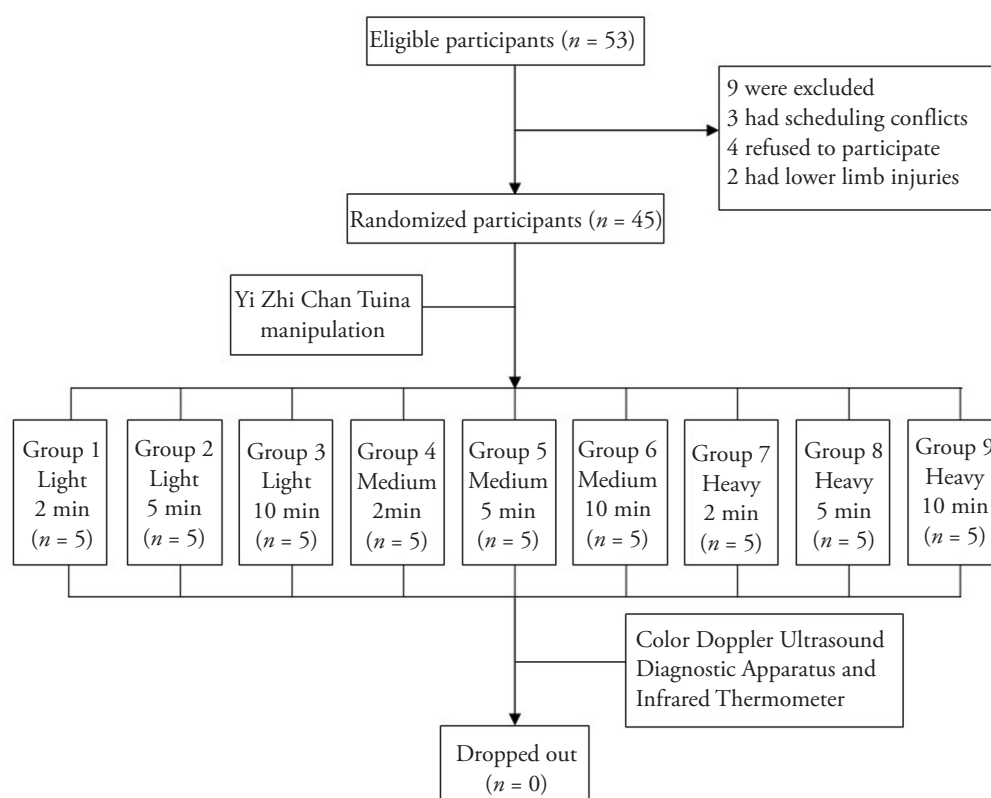


Figure 1 Flow of participants

Download English Version:

<https://daneshyari.com/en/article/4201103>

Download Persian Version:

<https://daneshyari.com/article/4201103>

[Daneshyari.com](https://daneshyari.com)