1. Personal Information

First Name	Weibo
Last Name	Zhang
Affiliation	Institute of Acupuncture & Moxibustion, China Academy of Chinese Medical Sciences
Country	China
Department	Medical Engineering in Acupincture
Degree (Ph.D. / M.D.)	Ph.D.
E-Mail	1507307638@qq.com

2. Curriculum Vitae

- **Educational Background & Experience**

Year	Affiliation	Position
1998	Beijing Polytechnic University	Ph.D.
1987	Institute of Biophysics of China Academy of Science	Master
1983	China Oceanography University	Bachelor

- **Publications**

No.	Contents
1	Zhang WB Tian YY , Li H et al. A Discovery of Low hydraulic Resistance Channel along Meridians. J Acup. Merid. Res. 2008; 1(1) : 20-28
2	W.B. Zhang, Y. Zhao, K. Fuxe, “Understanding Propagated Sensation along Meridians by Volume Transmission in Peripheral Tissue,” Chin J Integr Med , vol.19, no.5, pp.330-339, 2013.
3	Wei-Bo Zhang, Yi-Hui Xu, Yu-Ying Tian, Hong Li, Guang-Jun Wang, Tao Huang, and Shu-Yong Jia. Induction of Hyperalgesia in Pigs through Blocking Low Hydraulic Resistance Channels and Reduction of the Resistance through Acupuncture: A Mechanism of Action of Acupuncture. Evidence-Based Complementary and Alternative Medicine . 2013 : ID654645
4	W.T. Zhou, S.Y. Jia, Y.Q. Zhang Y.Y. Tian, G..J. Wang, T. Huang, L. Pang, Y.S. Zhou, X.Y. Sun, W.B. Zhang. Pathological Changes in Internal Organs after Blocking Low Hydraulic Resistance Channels along the Stomach Meridian in Pigs. Evidence-Based Complementary and Alternative Medicine . 2013, ID935687
5	Wei-Bo Zhang, Guang-Jun Wang, Kjell Fuxe. Classic and Modern Meridian Studies. A Review of Low Hydraulic Resistance Channels along Meridians and Their Relevance for Therapeutic Effects in Traditional Chinese Medicine. Evidence-Based Complementary and Alternative Medicine. Volume 2015, Article ID 41097

3. Abstract

Lecture Title	**Studies on the interstitial channel along meridians and the significance in acupuncture**

Weibo Zhang

Institute of Acupuncture & Moxibustion, China Academy of Chinese Medical Sciences

Meridians are a central concept in TCM theory. Previous studies have indicated the presence of long-range fluid flow within interstitial spaces, potentially associated with meridians. In our prior research, by injecting a small-molecule fluorescent substance with tissue affinity into low impedance points (LIPs) along meridians in the limbs of mini-pigs, we observed partial fluorescence trajectories along the meridians on the body surface. Anatomical examination revealed that the primary trajectory of migration lay within the deeper layers of interstitial tissue. To compare these deep trajectories with those of human meridians, in this study, pigs underwent injections a trace amount of fluorescein sodium(FS) into the LIPs and adjacent high-impedance points along 12 low-resistance meridian lines (one per leg). After injecting, excess anaesthetics were injected, and the limbs were frozen. Following removal and embedding of the frozen limbs, cross-sections were obtained using an electric bone saw. Bright-field and fluorescence images of the cross-sections were captured to observe the distribution characteristics of the fluorescence signals on the cross-sections. Images from consecutive cross-sections were used for three-dimensional reconstruction of the migration trajectory. The results revealed replicable trajectories on the cross-sections after FS injection at the LIPs in the limbs, showing 12 distinct migration trajectories. Except for the convergence of three yin meridians on the medial side of the forelimb towards the proximal end, the remaining channels remained independent and fixed in position. Partial mechanism of acupuncture can be understood very well through these interstitial channels.