



Acupuncture and Diabetic Peripheral Neuropathy

Lifang Xie**Susan Sanueli Integrative Health Institute, UC Irvine, USA****Corresponding author:** Lifang Xie, PhD, Susan Sanueli Integrative Health Institute, UC Irvine, USA

Received: 📅 September 21, 2020

Published: 📅 November 03, 2020

Introduction & Literature Review

The International Diabetes Federation estimates that 425 million people worldwide have diabetes [1], making it the largest global epidemic of the 21st century [2]. The prevalence of neuropathy in patients with diabetes is approximately 30%, and up to 50% will eventually develop neuropathy during the course of their disease [3]. Diabetes can damage the peripheral nervous system in a variety of ways, but the most common presentation is a distal symmetric polyneuropathy (DSP), which is characterized by numbness, tingling, pain, and/or weakness that affect the nerves in a “stocking and glove” pattern beginning in the distal extremities. DSP leads to substantial pain, morbidity, and impaired quality of life. Societal, personal, and healthcare costs associated with diabetic neuropathy are high. Due to a lack of treatments that target the underlying nerve damage, prevention focusing on glucose control and lifestyle modifications is the key component of diabetes care [4,5]. There are currently no approved disease-modifying therapies for DSP or other forms of diabetic neuropathy, and multiple clinical trials for these conditions have failed.

Acupuncture is a component of the health care system of China that can be traced back for at least 2,500 years [6]. This is a minimally invasive surgery in which a fine metal needle is inserted into a specific body point (acupoint) and slowly twisted manually to stimulate for therapeutic purposes. With simple operation, low cost, and few adverse reactions, acupuncture therapy is very popular among Chinese people. As a therapeutic intervention, acupuncture has also been used by millions of American patients and performed by thousands of physicians, dentists, acupuncturists, and other practitioners for relief or prevention of pain and for a variety of health conditions [7]. Over the past decades, the National Institutes of Health (NIH) has funded a variety of research projects on acupuncture, including studies on the mechanisms by which acupuncture may produce its effects, as well as clinical trials and other studies. Current data indicated that both manual acupuncture [8,9] and electro-acupuncture [10] were

superior to control conditions in diabetic peripheral neuropathy (DPN). The acupoints used for DPN include Li4, Li10, Li11, Li15, St31, ST32, St34, St36, St43, St44, SP3, SP6, Sp8, Sp9, Sp10, BL17, BL18, BL20, BL23, BL58, GB30, GB34, CV4, CV6, and Bafeng, Baxie. Most of them are located near the peripheral nerves which may exert its effect by directly stimulating on the underlying nerve and peri-neural tissues. Among all the clinical studies published so far, ST36 [11-18] and SP6 [11,12,14-16] were the most commonly used acupoints. ST36 is commonly indicated for nervous disorders such as foot paralysis and leg pain [12,19]. SP6 is also used for leg pain, and often indicated for blood and metabolic conditions, such as diabetes [19]. It has also been shown that Acupuncture at CV12, LI11, LI4, SP10, ST36, and SP9 could improve glomerular filtration and reduce urinary albumin excretion rate of DN patients systematically [20]. Therefore, acupuncture could be a promising alternative treatment strategy for patients with DPN.

References

1. International Diabetes Federation (2019) IDF Diabetes Atlas - 8th edition: key messages. IDF.
2. Tabish SA (2007) Is diabetes becoming the biggest epidemic of the twenty-first century? *Int J Health Sci* 1: 5-8.
3. Maser RE, Steenkiste AR, Dorman JS, Nielsen VK, Bass EB, et al. (1989) Epidemiological correlates of diabetic neuropathy. Report from Pittsburgh Epidemiology of Diabetes Complications Study. *Diabetes* 38(11): 1456-1461.
4. John B Buse, J Thomas Bigger, Robert P Byington, Lawton S Cooper, William C, et al. (2008) Action to Control Cardiovascular Risk in Diabetes Study Group. Effects of intensive glucose lowering in type 2 diabetes. *N Engl J Med* 358: 2545-2559.
5. Rodica Pop-Busui A (2017) Diabetic Neuropathy: A Position Statement by the American Diabetes Association. *Diabetes Care* 40(1): 136-154.
6. Kaptchuk TJ (2001) Methodological issues in trials of acupuncture. *JAMA* 285: 1015-1016.
7. (1998) NIH Consensus Conference Acupuncture. *JAMA* 280: 1518-1524.
8. Zuo L, Zhang L (2010) Study on the effect of acupuncture plus methylcobalamin in treating diabetic peripheral neuropathy. *J AcuTuinaSci* 8: 249-252.

9. Zhang C, Ma YX, Yan Y (2010) Clinical effects of acupuncture for diabetic peripheral neuropathy. *J Tradit Chin Med* 30:13-14.
10. Yu J, Cui Z (2001) Clinical study of diabetic peripheral neuropathy treated by acupuncture. *Int J ClinAcupunct* 12: 315-318.
11. Jiang H, Shi K, Li X (2006) Clinical study on the wrist-ankle acupuncture treatment for 30 cases of diabetic peripheral neuritis. *J Tradit Chin Med* 26: 8-12.
12. Tong Y, Guo H, Han B (2010) Fifteen-day acupuncture treatment relieves diabetic peripheral neuropathy. *J Acupunct Meridian Stud* 3: 95-103.
13. Yu J, Cui Z (2000) Clinical research of acupuncture in treating diabetic peripheral neuropathy. *Zhongguozhenjiu [Chinese Acupuncture & Moxibustion]* 20: 315-318.
14. Zhang C, Ma YX, Yan Y (2010) Clinical effects of acupuncture for diabetic peripheral neuropathy. *J Tradit Chin Med* 30: 13-14.
15. Abuaisha BB, Costanzi JB, Boulton AJ (1998) Acupuncture for the treatment of chronic painful peripheral diabetic neuropathy: a long-term study. *Diabetes Res ClinPract* 39: 115-121.
16. Garrow AP, Xing M, Vere J (2014) Role of acupuncture in the management of diabetic painful neuropathy (DPN): a pilot RCT. *Acupunct Med* 32: 242-249.
17. Ahn AC, Bennani T, Freeman R (2007) Two styles of acupuncture for treating painful diabetic neuropathy—a pilot randomised control trial. *Acupunct Med* 25: 11-17.
18. Jeon E, Kwon H, Shin I (2014) Effect of acupuncture on diabetic peripheral neuropathy: an uncontrolled preliminary study from Korea. *Acupunct Med* 32: 350-352.
19. Deadman P, Al-Khafaji M, Baker K (2007) *A Manual of Acupuncture: Journal of Chinese Medicine Publications.*
20. Feng Y (2018) *Acupoint Therapy on Diabetes Mellitus and Its Common Chronic Complications: A Review of Its Mechanisms. Biomed Res Int.*



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here: [Submit Article](#)

DOI: [10.32474/JCCM.2020.02.000140](https://doi.org/10.32474/JCCM.2020.02.000140)



Journal of Clinical & Community Medicine

Assets of Publishing with us

- Global archiving of articles
- Immediate, unrestricted online access
- Rigorous Peer Review Process
- Authors Retain Copyrights
- Unique DOI for all articles