Acupuncture and Cutaneous Medicine: Is It Effective?

Mary van den Berg-Wolf, MD,¹ and Thomas Burgoon, MD²

ABSTRACT

Background: In China, acupuncture has been used as a form of medical therapy for more than 2500 years. It is a part of traditional medical practice and is used to treat the entire spectrum of human and veterinary disease. Although dermatologic disease has received much less attention in worldwide acupuncture research than pain and musculoskeletal conditions, there is a growing body of evidence suggesting acupuncture's usefulness in this area.

Objective: The aim of this article was to review the evidence in the literature regarding the usefulness of acupuncture in managing dermatologic illness.

Results: Trials and case reports of patients using acupuncture have been published in the areas of atopic dermatitis and urticaria, herpes zoster, psoriasis, acne, melasma, and hyperhidrosis, as well as in promoting wound healing. Itch modulation by acupuncture has been the focus of recent research as itch is a predominant symptom in allergic skin diseases and leads to serious impairment of quality of life.

Conclusions: Although more research is needed, acupuncture's use in cutaneous medicine is promising in the area of itch modulation, in treating atopic dermatitis and herpes zoster pain, and in promoting wound healing.

Keywords: dermatologic conditions, acupuncture, itch, electroacupuncture, complementary and alternative medicine

INTRODUCTION

ACUPUNCTURE IS PRACTICED WORLDWIDE and has had considerable growth in the United States; ~ 3 million U.S. adults reported using acupuncture in 2007.¹ In Asia, acupuncture is an important part of traditional medical practice. Most U.S. patients receive acupuncture for pain conditions. In a 2013 survey, the use of complementary and alternative therapies for skin conditions was reported in about a third of patients, with up to 10% of patients reported using acupuncture for eczema, psoriasis, and nonspecific skin rash.² Clinical trials and case reports of patients using acupuncture have been reported in the areas of treating

atopic dermatitis and itch, urticaria, herpes zoster at various stages, psoriasis, acne, melasma, and hyperhidrosis, and for promoting wound healing.^{3,4}

What Is Acupuncture?

Acupuncture is a system of medical therapy that has been used in China for more than 2500 years in the treatment of all human and veterinary diseases.⁵ In Chinese, the practice is called *Zhen Jiu* (针灸). Acupuncture is derived from the Latin and means "to puncture the skin." Sterile, hair-fine needles are inserted into points and localized regions of the skin, and subcutaneous and muscle tissue in order to initiate

¹Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA.

²Medical Acupuncture of Chester County, West Chester, PA.

physiologic responses of repair and regulation in the body. Needles can be left in place or stimulated by hand, by electrical current applied to the needles (electroacupuncture [EA]) or by heating methods (moxibustion).

The use of acupuncture is described in the earliest extant Chinese medical text, the *Huang Di Nei Jing (The Yellow Emperor's Inner Canon)*, which dates from somewhere between the Warring States period (475–221 BC) and the Han Dynasty (206–220 BC).⁵

How Does Acupuncture Work? What Does the Research Say?

Much has been elucidated on acupuncture's physiologic effects from the point of view of cell, tissue, and systems biology; however, acupuncture's mechanism of action is understood incompletely. Most evidence indicates that effects of acupuncture are mediated both through the stimulation of sensory/neural pathways and through the stimulation of the local connective tissues where needles are placed.⁶ Specific acupuncture effects are mediated through the release of neurotransmitters, cytokines, and growth factors.⁷

Pain modulation has been shown to be mediated through complex interactions with the peripheral nervous system, spinal cord, and brain, with the release of endogenous opioidlike substances in the brain with acupuncture. The non-naloxone-responsive component is blocked by both serotonin and norepinephrine antagonists.⁸ The release of various neuropeptides is dependent on the frequency used in EA stimulation. Signals from low-frequency acupuncture are processed in the arcuate nucleus of the hypothalamus (β -endorphinergic neurons), periaqueductal gray matter (PAG), medulla (enkephalinergic neurons), and the dorsal horn, to suppress nociceptive transmission while signals from high-frequency acupuncture activate a short parabrachial nucleus–PAG–medulla–spinal dorsal horn pathway.⁸ Adenosine, a neuropeptide with antinociceptive properties, has also been found to also mediate the effects of acupuncture.⁹ Additionally, acupuncture has an effect on the limbic system, an important processing center for chronic pain sensing.¹⁰

A 2013 review outlined the effects of acupuncture stimulation on the release of neuropeptides and hormones, including β -endorphin, serotonin, oxytocin, adrenocorticotrophic hormone, gonadotropin-releasing hormone, corticotrophin-releasing hormone, cholecystokinin, and acetylcholine, as well as insulin, resulting in immunomodulation, anti-inflammation, and changes in autonomic nerve activity.¹¹

Acupuncture has been found to increase blood flow in experimental models of animal injury as well as in trials in human subjects. Researchers have found reductions in the expression or activation of pro-nerve-growth factor and pro-inflammatory factors such as tumor necrosis factor- α , interleukin (IL)-1- β , IL-6, nitric oxide (NO) synthase,

cyclo-oxygenase-2, and matrix metalloproteinase-9 with EA stimulation.¹² Another key element in blood-flow regulation lies in increasing the endothelial synthase of NO, which catalyzes NO; acupuncture has been found to increase levels of NO in the blood¹³ and in local tissue.¹⁴ In a rat burn model, acupuncture decreased wound size at 7 days in an acupuncture-treated group, compared to no acupuncture. In this model, inflammatory cytokine release was also reduced in the group receiving acupuncture.¹⁵ In human subjects, needling a specific point in the anterior leg caused an increase in skin and muscle blood flow, which was not observed in superficial needling.¹⁶ Similarly, EA in humans has been shown to increase skin and muscle blood flow.¹⁷

Is Acupuncture Safe?

Acupuncture is very safe in trained hands. In large prospective trials, most adverse events (AEs) reported are dizziness, local pain, and bruising or hematomas at needle-placement locations.¹⁸ Serious side-effects—such as pneumothorax, spinal cord injury, and organ puncture—have been reported rarely.^{18–20} Skin infections and the development of facial granulomas after acupuncture are rare AEs.^{21,22}

What Are the Indications for Acupuncture in Cutaneous Medicine?

Acupuncture has been used for dermatologic disease in Asia throughout its long history.^{23,24} There is a growing body of modern evidence accumulating on its usefulness. Older uncontrolled studies and case reports suggest that acupuncture can be used successfully to treat acne, atopic dermatitis, psoriasis, warts, and leg ulcers.⁴ Acupuncture has been used to treat both the acute skin eruption of herpes zoster as well as treating the condition's late neurologic sequelae.²⁵ Acupuncture has had increasing popularity of its use in cosmetic applications, but no clinical trials have reported on its efficacy in comparison to control therapies in helping eliminate nasolabial folds and lessening facial-skin sagging.²⁶

RESULTS

Itch

Acupuncture has been shown to have a significant effect on experimental itch. Pfab and colleagues have done extensive work on the sensation of itch, noting its importance as a major symptom of allergic skin disease. Itch is the most prevalent subjective symptom of inflammatory skin diseases and plays a key role clinically in diseases such as atopic eczema; itch leads to serious impairment of quality of life in patients who are affected.²⁷ Compared to placebo acupuncture, Pfab et al. demonstrated a significant reduction in wheal and flare response as well as itch intensity in healthy

subjects using the acupuncture point *Qu Chi*.²⁷ *Qu Chi* (曲池), located near the lateral end of the transverse cubital crease of the elbow, is considered specifically useful for treating itch in the Chinese clinical acupuncture experience.²⁸ Two randomized clinical trials comparing acupuncture with placebo-point stimulation have been published, which all used *Qu Chi* combined with other points and regions for reducing histamine-induced itch in healthy volunteers.^{29,30}

In patients with atopic dermatitis, Pfab et al. conducted a blinded, randomized study comparing four treatment arms in an induced itch model by utilizing the application of an allergen solution applied to the volar aspect of the distal nondominant forearm of subjects using skin prick and modulating the temperature over the site in a standardized fashion, which can increase and decrease itch sensation quickly.³¹ The four treatment arms were verum acupuncture, placebo acupuncture, oral cetirizine, and oral placebo cetirizine. The four arms were compared when the treatments were applied prior to itch induction and at the same time as itch induction. The study assessed allergen-induced itch intensity and skin response (wheal and flare) for all interventions. Interventions applied during itch induction were termed abortive interventions; therefore, acupuncture applied during itch induction was termed abortive acupuncture. Placebo acupuncture in this study was performed using with nonpenetrating needles affixed to skin at non-acupuncture point locations on the dominant arm.

The researchers found that acupuncture was as effective as cetirizine as a preventive intervention and was superior to cetirizine or placebo acupuncture as an abortive intervention for reducing itch perception. In this study, abortive acupuncture was the only intervention to reduce itch perception significantly below the scratch threshold. Preventive acupuncture was the only therapy found to reduce skin reactions (flare sizes). These results suggest that acupuncture could be valuable as a complementary therapy for atopic patients.³¹

A single, small, blinded pilot study treating patients with atopic dermatitis 3 times weekly for 10 sessions, compared to no acupuncture, found that, in acupuncture-treated participants, there was a significant decrease in itch, measured by a visual analogue scale, as well as a decrease in basophil activation. Basophil activation has been shown to play a role in immunoglobulin E-mediated immunity.³²

Psoriasis

A recent meta-analysis of 6 studies involving 522 participants with psoriasis vulgaris demonstrated that acupuncture had some benefit in improving results on the Psoriasis Area Severity Index and decreasing the relapse rate. However these trials were limited by small sample sizes and variability in protocols and controls.³³

Acne

One randomized controlled trial (RCT) in Korean men reported on the effect of acupuncture, compared with herbal medicine, and found no difference in skin clearance between the two comparator groups at 4 weeks.³⁴

Melasma

One RCT on melasma (also known as chloasma) in Chinese women comparing (1) acupuncture with (2) oral vitamins C and E, and local retinoid cream, and (3) no treatment showed there was no difference in outcomes at 3 months between the acupuncture group and the vitamin/retinoid group.³⁵ However, there were significant differences in both treatment groups compared to the no-treatment group. A recent meta-analysis of acupuncture used for melasma was reported for 8 RCTs in 587 women, and no conclusions on the usefulness of acupuncture could be drawn due to the heterogeneity of trials and small sample sizes.³⁶

Hyperhidrosis

Wang and Zhao, in China, reported on an RCT in patients with hyperhidrosis, comparing acupuncture with estazolam and found a significant reduction in hyperhidrosis in the acupuncture group over the estazolam group.³⁷ No other controlled trials have appeared in the literature for hyperhidrosis. Researchers writing on a series of case reports found acupuncture helpful for treating hyperhidrosis.³⁸

Urticaria

In Asia, acupuncture has been used for centuries to treat urticaria. Urticaria was described as early as the seventh century AD by the famous Chinese physician Sun Si Miao in his treatise *Qian-Jin-Yao-Fang (Thousand-Ducat-Important-Prescriptions)*.³⁹ Chen and Yu published a review of various acupuncture approaches found useful in the management of acute and chronic urticaria.³⁹ The researchers reviewed a number of case series from the Chinese-language literature and reported clinically relevant reduction in chronic urticaria of 50%–83% of patients. In a randomized, double-blinded study of patients with chronic idiopathic urticaria refractory to conventional treatment, Iraj and colleagues demonstrated a >50% reduction in the number of episodes and duration of each episode by the third week of acupuncture treatment, compared to placebo.⁴⁰

Herpes Zoster and Postherpetic Neuralgia

The pain of herpes zoster can be severe and debilitating and relief is often unsatisfactory despite combinations of medications.⁴¹ Current therapeutic options include acetaminophen, nonsteroidal anti-inflammatory drugs, antiviral drugs, gabapentinoids, tricyclic antidepressants, corticosteroids,

local anesthesia, and opioid analgesics. Unfortunately, these options can carry a substantial risk of side-effects, which can be more pronounced in elderly patients, who constitute a large portion of those affected.⁴² There is a growing recognition of the need to avoid polypharmacy by both the American and British Geriatric Societies and the British Pain Society.^{43,44}

Authors of case studies have reported benefit of acupuncture in the treatment of postherpetic neuralgia.^{45–47} However, 1 RCT conducted in the United Kingdom failed to show any benefit with the researchers' particular approach to acupuncture.⁴⁸ Choi et al. in China published a review of Chinese-language clinical studies of acupuncture and moxibustion (heating) therapy for acute herpes zoster and concluded that there is some evidence for their effectiveness in treating acute herpes zoster.⁴⁹ In addition, a 2013 World Health Organization clinical practice guideline summarized a number of recommended acupuncture approaches for the treatment of herpes zoster in its various stages based on evidence from 52 published case series in the Chinese literature.²⁵

The first RCT of acupuncture for acute herpes zoster pain is of interest. In this trial, Ursini et al. compared 4 weeks of biweekly acupuncture to standard treatment for the control of intense pain in acute herpes zoster. The standard treatment consisted of a tiered protocol of a combination of agents with pregabalin, intermittent local anesthetic via peridural or peripheral perineural blockade, and transdermal buprenorphine or oral oxycodone. Both groups received oral antiviral treatment. Acupuncture provided pain relief equivalent to the standardized analgesic therapy, without any serious adverse effects.⁵⁰

Wound Healing

Although only limited clinical data are available, EA has been found to promote wound healing.⁵¹ Iwamoto et al., in Japan, reported that conventional wound care combined with EA applied to local points surrounding decubitus ulcers, compared to distal acupuncture points, reduced wound size significantly at 4 and 6 weeks in hospitalized Japanese patients.⁵² Although acupuncture has been proposed to be helpful for treating venous leg ulcerations, only case reports exist to support its use; clinical trials are underway.⁵³

DISCUSSION

Acupuncture exerts its effects on the treatment of skin conditions and itch by complex interactions of local effects in increasing blood flow, releasing neurotransmitters and hormones, and activating brain-processing pathways. There are only a few RCTs in the areas of histamine-induced itch. There are no RCTs comparing the effectiveness of acupuncture versus placebo in the treatment of wound healing, acne, atopic dermatitis, psoriasis, melasma, hyperhidrosis, and herpes zoster. A recent systematic review of more than

359 potential studies did not reveal any RCTs evaluating the effects of acupuncture on atopic dermatitis as a disease.⁵⁴ Furthermore, a systematic review of itch and acupuncture found only 3 RCTs from a total of 2530 articles considered⁵⁵; there were 2 articles related to histamine-provoked itch and atopic eczema,^{32,56} and 1 related to using acupuncture in uremic itch in patients receiving dialysis.⁵⁷

While there is some evidence that the use of acupuncture can treat itch and atopic dermatitis, the few numbers of small studies published so far limit wider adaptation of acupuncture for skin diseases as treatment recommendation to clinicians. This is in contrast to the recently published clinical guidelines of the American College of Physicians recommending nonpharmacologic therapies over drug therapies for initial acute and subacute lower-back pain treatment.⁵⁸ In the guidelines, the researchers noted that acupuncture was moderately effective with a moderate strength of evidence as an initial treatment and that this effectiveness was on a par with that found with multidisciplinary back-rehabilitation treatments.

CONCLUSIONS

Acupuncture has a physiologic basis in mediating its effects through central and peripheral networks in the body. Acupuncture's mechanism of action is very complex and is beginning to be understood better. Although more research is needed, acupuncture's use in cutaneous medicine at this point is promising in itch modulation, in treating atopic dermatitis and herpes zoster pain, and in promoting wound healing. Clearly, more research is needed in the area of acupuncture and its application for skin conditions and itch. Research is essential to determine the reliability and generalizability of clinical effects found in trials and case reports in the literature and to determine if the results found can translate into patient-care recommendations.

AUTHOR DISCLOSURE STATEMENT

The authors report no competing financial interests.

REFERENCES

1. Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States, 2007. *Natl Health Stat Report*. 2008;(12):1–23.
2. Baron SE, Goodwin RG, Nicolau N, Blackford S, Goulden V. Use of complementary medicine among outpatients with dermatologic conditions within Yorkshire and South Wales, United Kingdom. *J Am Acad Dermatol*. 2005;52(4):589–594.
3. Ma C, Sivamani RK. Acupuncture as a treatment modality in dermatology: A systematic review. *J Altern Complement Med*. 2015;21(9):520–529.

4. Rosted P. Treatment of skin diseases with acupuncture: A review. *J Dermatol Treat*. 1995;6(4):241–242.
5. Kaptchuk TJ. Acupuncture: Theory, efficacy, and practice. *Ann Intern Med*. 2002;136(5):374–383.
6. Langevin HM. Acupuncture, connective tissue, and peripheral sensory modulation. *Crit Rev Eukaryot Gene Expr*. 2014;24(3):249–253.
7. Manni L, Albanesi M, Guaragna M, Barbaro Paparo S, Aloe L. Neurotrophins and acupuncture. *Auton Neurosci*. 2010;157(1–2):9–17.
8. Han JS. Acupuncture analgesia: Areas of consensus and controversy. *Pain*. 2011;152(3[suppl]):S41–S48.
9. Goldman N, Chen M, Fujita T, et al. Adenosine A1 receptors mediate local anti-nociceptive effects of acupuncture. *Nat Neurosci*. 2010;13(7):883–888.
10. Hui KK, Liu J, Makris N, et al. Acupuncture modulates the limbic system and subcortical gray structures of the human brain: Evidence from fMRI studies in normal subjects. *Hum Brain Mapp*. 2000;9(1):13–25.
11. Yu JS, Zeng BY, Hsieh CL. Acupuncture stimulation and neuroendocrine regulation. *Int Rev Neurobiol*. 2013;111:125–140.
12. Choi DC, Lee JY, Moon YJ, Kim SW, Oh TH, Yune TY. Acupuncture-mediated inhibition of inflammation facilitates significant functional recovery after spinal cord injury. *Neurobiol Dis*. 2010;39(3):272–282.
13. Ma S. Enhanced nitric oxide concentrations and expression of nitric oxide synthase in acupuncture points/meridians. *J Altern Complement Med*. 2003;9(2):207–215.
14. Tsuchiya M, Sato EF, Inoue M, Asada A. Acupuncture enhances generation of nitric oxide and increases local circulation. *Anesth Analg*. 2007;104(2):301–307.
15. Park SI, Sunwoo Y, Jung YJ, et al. Therapeutic effects of acupuncture through enhancement of functional angiogenesis and granulogenesis in rat wound healing. *Evid-Based Complement Alternat Med*. 2012;2012:464586.
16. Sandberg M, Lundeberg T, Lindberg L, Gerdle B. Effects of acupuncture on skin and muscle blood flow in healthy subjects. *Eur J Appl Physiol*. 2003;90(1–2):114–119.
17. Mori H, Kuge H, Tanaka TH, Taniwaki E. Influence of different durations of electroacupuncture stimulation on skin blood flow and muscle blood volume. *Acupunct Med*. 2014;32(2):167–171.
18. White A. A cumulative review of the range and incidence of significant adverse events associated with acupuncture. *Acupunct Med*. 2004;22(3):122–133.
19. Melchart D, Weidenhammer W, Streng A, Reitmayr S, Hoppe A, Ernst E, Linde K. Prospective investigation of adverse effects of acupuncture in 97 733 patients. *Arch Intern Med*. 2004;164(1):104–105.
20. Ernst E, White A. Life-threatening adverse reactions after acupuncture? A systematic review. *Pain*. 1997;71(2):123–126.
21. Bashey S, Lee DS, Kim G. Extensive facial sclerosing lipogranulomatosis as a complication of cosmetic acupuncture. *Dermatol Surg*. 2015;41(4):513–516.
22. Wang J, Zhu MY, Li C, Zhang HB, Zuo GB, Wang MH, Teng HL. Outbreak of primary inoculation tuberculosis in an acupuncture clinic in southeastern China. *Epidemiol Infect*. 2015;143(5):943–948.
23. Chen C, Yu H. Acupuncture, electrostimulation, and reflex therapy in dermatology. *Dermatol Ther*. 2003;16(2):87–92.
24. Lu GD, Needham J. *Celestial Lancets: A History and Rationale of Acupuncture and Moxa*. New York: Routledge/Curzon; 1980.
25. Liu ZS, Peng WN, Liu BY, et al. Clinical practice guideline of acupuncture for herpes zoster. *Chin J Integr Med*. 2013;19(1):58–67.
26. Barrett JB. Acupuncture and facial rejuvenation. *Aesthet Surg J*. 2005;25(4):419–424.
27. Pfab F, Huss-Marp J, Gatti A, et al. Influence of acupuncture on type I hypersensitivity itch and the wheal and flare response in adults with atopic eczema—a blinded, randomized, placebo-controlled, crossover trial. *Allergy*. 2010;65(7):903–910.
28. Maciocia G. *The Foundations of Chinese Medicine: A Comprehensive Text for Acupuncturists and Herbalists*, 2nd ed. London: Churchill Livingstone/Elsevier; 2005.
29. Belgrade MJ, Solomon LM, Lichter EA. Effect of acupuncture on experimentally induced itch. *Acta Derm Venereol*. 1984;64(2):129–133.
30. Pfab F, Hammes M, Bäcker M, et al. Preventive effect of acupuncture on histamine-induced itch: A blinded, randomized, placebo-controlled, crossover trial. *J Allergy Clin Immunol*. 2005;116(6):1386–1388.
31. Pfab F, Kirchner M, Huss-Marp J, et al. Acupuncture compared with oral antihistamine for type I hypersensitivity itch and skin response in adults with atopic dermatitis—a patient- and examiner-blinded, randomized, placebo-controlled, crossover trial. *Allergy*. 2012;67(4):566–573.
32. Pfab F, Athanasiadis GI, Huss-Marp J, et al. Effect of acupuncture on allergen-induced basophil activation in patients with atopic eczema: A pilot trial. *J Altern Complement Med*. 2011;17(4):309–314.
33. Coyle M, Deng JW, Zhang AL, Yu J, Guo X, Xue CC, Lu C. Acupuncture therapies for psoriasis vulgaris: A systematic review of randomized controlled trials. *Forsch Komplementmed*. 2015;22(2):102–109.
34. Kim KS, Kim YB. Anti-inflammatory effect of *keigai-rengyo-to* extract and acupuncture in male patients with acne vulgaris: A randomized controlled pilot trial. *J Altern Complement Med*. 2012;18(5):501–508.
35. Shi HF, Xu B, Guo XC, Qiu XW, Zhang YP, Ding XJ. Effect of *gan-pi* regulatory needling in treating chloasma. *Chin J Integr Med*. 2010;16(1):66–70.
36. Chai Q, Fei Y, Cao H, Wang, C, Tian, J, Liu, J. Acupuncture for melasma in women: A systematic review of randomised controlled trials. *Acupunct Med*. 2015;33(4):254–261.
37. Wang WZ, Zhao L. Acupuncture treatment for spontaneous polyhidrosis. *J Tradit Chin Med*. 2008;28(4):262–263.
38. Cayir Y, Engin Y. Acupuncture for primary hyperhidrosis: Case series. *Acupunct Med*. 2013;31(3):325–326.
39. Chen C, Yu H. Acupuncture treatment of urticaria. *Arch Dermatol*. 1998;134(11):1397–1399.
40. Iraj F, Saghayi M, Mokhtari H, Siadat A. Acupuncture in the treatment of chronic urticaria: A double blind study. *Internet J Dermatol*. 2006;3(2):[no pages listed].
41. Wareham DW, Breuer J. Herpes zoster. *BMJ*. 2007;334(7605):1211–1215.

42. Taylor R, Lemtouni S, Weiss K, Pergolizzi JV. Pain management in the elderly: An FDA safe use initiative expert panel's view on preventable harm associated with NSAID therapy. *Curr Gerontol Geriatr Res*. 2012;2012:196159.
43. American Geriatrics Society 2012 Beers Criteria Update Expert Panel. American geriatrics society updated Beers Criteria for potentially inappropriate medication use in older adults. *J Am Geriatr Soc*. 2012;60(4):616–631.
44. Abdulla A, Adams N, Bone M, et al. Guidance on the management of pain in older people. *Age Ageing*. 2013; 42(suppl1):i1–i57.
45. Stone JAM, Gettelfinger GL, Johnstone PAS. Treatment of 13 patients with post-herpetic neuralgia using acupuncture. *J Soc Integr Oncol*. 2010;8(4):126–130.
46. Wu J, Guo Z. Twenty-three cases of postherpetic neuralgia treated by acupuncture. *J Tradit Chin Med*. 2000;20(1):36–37.
47. Fischer MV, Behr A, von Reumont J. Acupuncture: A therapeutic concept in the treatment of painful conditions and functional disorders. Report on 971 cases. *Acupunct Electrother Res*. 1984;9(1):11–29.
48. Lewith GT, Field J. Acupuncture and postherpetic neuralgia. *Br Med J*. 1980;281(6240):622.
49. Choi YM, Kim SH, Kim JY, Park SH, Yook TH, Kim JU. A review on clinical studies of acupuncture and moxibustion therapy for acute herpes zoster. *Acupuncture*. 2015;32(3):147–161.
50. Ursini T, Tontodonati M, Manzoli L, et al. Acupuncture for the treatment of severe acute pain in herpes zoster: Results of a nested, open-label, randomized trial in the VZV pain study. *BMC Complement Altern Med*. 2011;11:46.
51. Walton EW. Electroacupuncture: Applications in the treatment of chronic nonhealing wounds. *Adv Skin Wound Care*. 2013;26(11):495–497.
52. Iwamoto E, Murase K, Taninokuchi M, Motoishi N. Effects of combining electroacupuncture with conventional care for the treatment of pressure ulcers: Comparison of local electroacupuncture and remote electroacupuncture. *Jpn Acupunct Moxibustion*. 2013;9(1):13–21.
53. Vas J, Modesto M, Mendez C, et al. Effectiveness of acupuncture, special dressings and simple, low-adherence dressings for healing venous leg ulcers in primary healthcare: Study protocol for a cluster-randomized open-labeled trial. *BMC Complement Altern Med*. 2008;8:29.
54. Tan HY, Lenon GB, Zhang AL, Xue CC. Efficacy of acupuncture in the management of atopic dermatitis: A systematic review. *Clin Exp Dermatol*. 2015;40(7):711–715.
55. Yu C, Zhang P, Lv ZT, et al. Efficacy of acupuncture in itch: A systematic review and meta-analysis of clinical randomized controlled trials. *Evid-Based Complement Alternat Med*. 2015;2015:208690.
56. Pfab F, Huss-Marp J, Gatti A, et al. Influence of acupuncture on type I hypersensitivity itch and the wheal and flare response in adults with atopic eczema—a blinded, randomized, placebo-controlled, crossover trial. *Allergy*. 2010;65(7):903–910.
57. Che-Yi C, Wen CY, Min-Tsung K, Chiu-Ching H. Acupuncture in haemodialysis patients at the *Quchi* (LI11) acupoint for refractory uraemic pruritus. *Nephrol Dial Transplant*. 2005;20(9):1912–1915.
58. Qaseem A, Wilt TJ, McLean RM, Forciea MA; Clinical Guidelines Committee of the American College of Physicians. Noninvasive treatments for acute, subacute, and chronic low back pain: A Clinical Practice Guideline from the American College of Physicians. *Ann Intern Med*. 2017; 166(7):514–530.

Address correspondence to:
 Mary van den Berg-Wolf, MD
 General Internal Medicine
 Sidney Kimmel Medical College
 at Thomas Jefferson University
 833 Chestnut Street, Suite 701
 Philadelphia, PA 19107-5005

E-mail: mary.vandenberg-wolf@jefferson.edu

**To receive CME credit, you must complete the quiz
 online at: www.medicalacupuncture.org/cme**

CME Quiz Questions

Article learning objectives:

After studying this article, participants should be able to identify areas of current research on acupuncture treatment of cutaneous disorders; employ scientifically based recommendations regarding acupuncture in treatment plans for cutaneous disorders; and appraise the current status of research on acupuncture and cutaneous disorders and identify areas for future research.

Publication date: October 5, 2017

Expiration date: October 31, 2018

Disclosure Information:

Authors have nothing to disclose.

Richard C. Niemtzow, MD, PhD, MPH, Editor-in-Chief, has nothing to disclose.

Questions:

1. Identify the **incorrect** statement:
 - a. Acupuncture has a long history of use in Asia for dermatologic conditions.
 - b. While a majority of modern research on acupuncture has focused on problems like pain, there is a growing body of research investigating acupuncture's role in skin conditions.
 - c. Acupuncture is a term derived from Latin that means "to treat skin disorders."
 - d. 针灸 Zhen Jiu is the Chinese term for acupuncture with one character referring to the needle and one character denoting moxabustion.
2. Identify the **incorrect** statement:
 - a. The symptom of itch is a major symptom of allergic skin disease.
 - b. Itch is the most prevalent symptom of inflammatory skin disease and plays a key role clinically in atopic eczema.
 - c. In placebo-controlled research, Pfab demonstrated a significant decrease in histamine-induced wheal and flare response using acupuncture point LI-11 (Qu Chi 曲池).
 - d. Pfab's work on atopic dermatitis focused primarily on the effect of acupuncture on the emotional state of these patients.
3. Identify the **incorrect** statement:
 - a. In atopic dermatitis patients, Pfab et al. (Allergy 2012) demonstrated that acupuncture was as effective as certrazine as a preventative intervention.
 - b. In atopic dermatitis patients, Pfab et al. (Allergy 2012) demonstrated that acupuncture was superior to certrazine or placebo acupuncture as an abortive intervention in reducing itch perception.
 - c. In atopic dermatitis patients, Pfab et al. (J Altern Complement Med 2011) demonstrated that acupuncture treatment was associated with a significant decrease in basophil activation.
 - d. Basophil activation has not been shown to play a role in IG E-mediated immunity.
4. Identify the **incorrect** statement:

Coyle et al.'s 2015 (Forsch Komplementmed) meta-analysis of acupuncture for psoriasis:

 - a. demonstrated improvement in Psoriasis Area Severity Index.
 - b. demonstrated a decreased relapse rate.
 - c. was limited by variability in controls.
 - d. the treatment protocol was consistent across the six studies.
5. Identify the **incorrect** statement:
 - a. Iraj et al.'s 2006 randomized, double-blinded trial for chronic urticaria refractory to conventional treatment demonstrated a >50% reduction in number of episodes and duration of each episode in the acupuncture treatment group.
 - b. Current therapeutic options for pain control in herpes zoster patients such as gabapentin, tricyclic antidepressants, and opiates unfortunately carry a substantial risk for adverse reactions, especially in the elderly.
 - c. The 2013 WHO clinical practice guideline summarized a number of recommended acupuncture approaches for the treatment of herpes zoster in its various stages.
 - d. Ursini et al.'s first randomized, controlled trial for chronic herpes zoster pain compared acupuncture treatment to conventional treatment and demonstrated equivalent pain relief without serious adverse effects.

Continuing Medical Education – Journal Based CME Objectives:

Articles in *Medical Acupuncture* will focus on acupuncture research through controlled studies (comparative effectiveness or randomized trials); provide systematic reviews and meta-analysis of existing systematic reviews of acupuncture research and provide basic education on how to perform various types and styles of acupuncture. Participants in this journal-based CME activity should be able to demonstrate increased understanding of the material specific to the article featured and be able to apply relevant information to clinical practice.

CME Credit

You may earn CME credit by reading the CME-designated article in this issue of *Medical Acupuncture* and taking the quiz online. A score of 75% is required to receive CME credit. To complete the CME quiz online, go to <http://www.medicalacupuncture.org/cme> – AAMA members will need to login to their member account. Non-members have the opportunity to participate for a small fee.

Accreditation: The American Academy of Medical Acupuncture is accredited by the Accreditation Council for Continuing Medical Education (ACCME).

Designation: The AAMA designates this journal-based CME activity for a maximum of 1 *AMA PRA Category 1 Credit*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.