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Review article

Acupoint stimulation for chronic urticaria: a systematic review of randomized controlled trials

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ABSTRACT

Introduction: Standard treatments are often unsatisfactory on chronic urticaria (CU). Acupoint stimulation, including acupuncture, electroacupuncture, acupoint catgut embedding, acupoint injection, has shown benefit about alleviating itching, reducing amount and range of the lesions. However, the methodological quality of these trials is unknown. Thus, the objective of this review is to evaluate the quality and effectiveness of acupoint stimulation for chronic urticaria.
Methods: We searched PubMed, Embase, the Cochrane Central Register of Controlled Trials, CNKI, CBM, VIP, Wanfang databases from January 1966 to June 2015. Randomized controlled trials (RCTs) on acupoint stimulation for CU were included. The Cochrane risk of bias tool was used to evaluate methodological quality.
Results: Eight RCTs met the inclusion criteria, which were all low quality. Acupuncture plus other treatment was significantly superior to western medicine alone and autologous blood injection plus herbal medicine was better than herbal medicine alone in increasing the number of cured patients.
Conclusions: Acupoint stimulation may provide benefit in CU; however, more large scale, high quality studies are needed for assessing the effects before it is recommended.

Contents

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1. Introduction

Urticaria (hives or wheals) is a common complaint in the dermatology department. Urticaria is characterized by circumscribed itchy patches on the skin that are slightly elevated and smooth. Lesions can be erythematous or white and change in size and shape over a few hours or days. When urticaria persists beyond 6 weeks and recurs more than twice a week, it is defined as chronic urticaria(CU) [1,2]. Theories abound about the etiology of CU, and were affected by many factors [2,3]. CU symptoms can be exacerbated by physical factors such as dermatographism, pressure, vibration, or exposure to cold, heat, or sun [1]. In most cases, CU is self-limiting, typically lasting for months to several years. But due to extreme pruritus, unsightly skin lesions and symptom recurrence, quality of life is decreased [2].

The pathogenesis of CU is mast cell degranulation of mediators, such as histamine, leukotrienes and prostaglandins [4]. Those mediators makes fluid extravasated into the superficial tissues in both the early and late-phase responses. Blood basophil immunoglobulin E (IgE) receptor have been implicated in chronic mast cell activation [4,5]. Itching and wealing are happened when the mast cell component of urticaria is recognized and usually leads to antihistamines [5].

As first-line therapy for CU, second-generation H1-antihistamines are recommended by numerous guidelines and trials [5–7]. However, results of research based on such recommendation are inconsistent, thus there is no consensus on standard treatment for CU [8].

In China, many CU patients turned to acupuncturists for help. Acupoint stimulation mostly means inserting needles into the specific points in meridians [9,10]. Except for acupuncture, new forms of acupoint stimulation, such as electroacupuncture, acupoint injection, cutgut embedding according to traditional Chinese theory, have been used for CU from 1965 to now. Animal experiments have shown that acupoint stimulation can decrease the high serum IgE level, reduce histamine and leukotrienes secreted by mast cell, then to reduce active immune reactions and relieve swelling and itching [11–14].

The outcomes in clinical trials [15–18] have demonstrated that acupoint stimulation can alleviate itching, reduce amount and range of the lesions. Disease spectrum on the use of acupuncture has also shown that acupuncture was the second most likely therapeutic method to treat CU in dermatology [19]. However, the existing evidence for CU was not rigorous enough to conclude the finding. Thus the objective of this review is to determine the quality and effectiveness of acupoint stimulation for CU. Results of this systematic review are shown below.

2. Methods

2.1. Systematic literature searches

We carried out electronic searches in PubMed, Embase, the Cochrane Central Register of Controlled Trials, China National Knowledge Infrastructure Database (CNKI), the Chongqing VIP Chinese Science and Technology Periodical Database (VIP), Wanfang database, and the Chinese Biomedical Literature Database (CBM), with start date of January 1966 and end date of June 2015. We also hand searched a list of dermatovenereology journals and traditional Chinese medicine journals which were not in the electronic databases. The key words or free text words and the searching strategies were as follows: ("urticaria" OR "hives" OR "wheals") AND ("acupuncture" OR "electroacupuncture" OR "acupoint" OR "meridian" OR "auricular therapy" OR "acupoint catgut embedding" OR "acupoint injection" OR "complementary medicine" OR "alternative medicine") AND ("clinical trial" OR "randomized controlled trial"). The references of all included trials were searched by hand. There was no language restriction.

2.2. Selection criteria

The eligible studies were identified according to the following inclusion criteria: (1) Type of studies: randomized controlled trials (RCTs) design; (2) Participants: patients of any age and gender were diagnosed unequivocally as CU by explicitly diagnostic criteria; (3) Intervention and control: intervention groups received any acupoint stimulation including acupuncture, electroacupuncture, acupoint injection and acupoint catgut embedding, combined with or without western medication. Control groups could be no treatment, placebo or western medication. Acupoint stimulation with other therapies compared with the same other therapies were also included. Therapy period and dosage were not limited; (4) Outcomes: primary outcome should be the changes in symptoms severity, such as changes of severity of itching, size, intensity or duration of the lesions, the improvement of score including Urticarial Activity Score (UAS), Itch Severity Score (ISS) and the Total Effective Rate. We considered dermatology life quality (DLQI) and adverse events (AEs) as the secondary outcomes.

The excluded criteria were as follow: (1) not a RCT; (2) the choice of acupoints was not according to traditional Chinese theory; (3) the origin of explicitly diagnostic criteria was not reported.

2.3. Data retrieval

Two reviewers (Jingdong Yan and Yuepeng An) screened the titles and abstracts independently to identify potential eligible articles. Then full-text articles were retrieved if necessary. If the articles met the eligibility criteria, the data including demographic characteristics, methodological features, treatment programs and outcomes was extracted in predesigned data extraction form. Disagreements were resolved by consensus with a third review author (Ling-shu Wang).

2.4. Quality assessments

The Cochrane Collaboration's tool for assessing risk of bias [20] was used to assess methodological quality of the trials. The items were: (1) random sequence generation; (2) allocation concealment; (3) blinding of participants and personnel; (4) blinding of outcome assessment; (5) incomplete outcome data; (6) selective