

# Acupuncture In The Treatment Of Chronic Urticaria: A Double Blind Study

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## Abstract

Background: Urticaria is very common and most of the current treatments are only partially successful.

Objective: To determine the efficacy of acupuncture in the treatment of chronic urticaria in a double-blind study.

Materials & Methods: In a randomized, controlled, double-blind clinical trial, 40 patients with chronic urticaria referred to skin clinics of Isfahan University were studied. The patients had idiopathic urticaria, resistant to conventional treatment, and had not received any medication in the last month. We randomly divided them in two equal groups. One group was treated with needle acupuncture and the other with placebo for 3 weeks. The normality of the distribution of data was tested by Kolmogorov-Smirnov test. The collected results were analyzed by using repeated measure ANOVA test and SPSS release 12 program.

Results: The mean numbers of the episodes of urticaria in 3 weeks were 4.81 episodes in the control group and 3.62 episodes in the acupuncture group (25% reduction in the episodes rate as compared with placebo) (P value=0.01). The mean duration of urticarial episodes in the third week was 5.7 hours in the control group and was 4.3 hours in the acupuncture group (25% reduction in the episodes duration) (P value = 0.03).

Conclusion: Acupuncture induced partial remission of chronic urticaria in the majority of the patients. During 3 weeks of study, the efficacy of acupuncture was greatest in the third week of treatment.

## INTRODUCTION

Urticaria is defined as a transient, pale or erythematous, round or oval swelling of the skin. Acute urticaria usually lasts about 24-48 hours. Chronic urticaria usually lasts more than 6 weeks (1). Urticaria is a common disease which affects up to 20% of the general population at least once during their lifetime. Several conditions such as intolerance to certain foods, additives, drugs, as well as infection or internal diseases, have been found to be related to urticaria symptoms and have therefore been implicated as aetiopathogenetic factors (2). Other work has shown that the cause of chronic Urticaria (CU) remained unknown in a high percentage (70-75%) of cases, despite intensive clinical and laboratory investigations (3,4).

Many Treatments have been used for treatment of chronic urticaria including Combination: dapsone (50-150 mg/day) and pentoxifyllin (600 mg/day) (5) Combination: H1 and H2-

blocker (6), Combination: H1-blocker and b-sympathomimetics or nifedipin (6, 7), Doxepin (6), Danazol (initially 400-600 mg/day) (8), Leukotriene antagonists (e.g. montelukast 10 mg/day) (9, 10), Sulfazalazine (3 · 500-1000 mg/day) (11), Corticosteroids (5), Cyclosporin A (4 mg/kg) (12), Interferon (13), PUVA (14), Plasmapheresis (15), Immunoglobulins (16) and Cumarin (17).

Acupuncture is a term derived from the Latin words *acus* and *punctura*. Originally it meant to puncture the body (at some specific location) by a needle. Today the term acupuncture is applied more broadly to include original acupuncture (*acus-punctura*) and many related methods such as moxibustion, cupping, acupressure, etc. Needle acupuncture is therefore the term used now to describe the original acupuncture (18). In the field of dermatology, acupuncture has been reported to be beneficial for the treatment of acne, postherpetic neuralgia, psoriasis, atopic dermatitis, and urticaria. In the acute urticaria, it is suggested

that acupuncture is effective in up to 90% of cases. The efficacy of acupuncture in the patients with chronic urticaria was reported to be 30-50% (19). A lack of controlled studies is the main drawback for the methods mentioned above. In the current study, we evaluated the efficacy of acupuncture in a double-blind, prospective study.

**MATERIAL & METHODS**

This study was a double-blind, placebo-controlled study. All of the patients had active chronic urticaria without angioedema and were resistant to conventional therapies and maximum antihistamine dosage. Patients that were pregnant, breast feed, or with history of any related drug use in the recent 1 month and patients with physical urticaria were excluded from the study. Patients were instructed not to use any antihistamines or other drug for treatment of the urticaria during the study.

After giving enough information to all patients, informed consent was taken from them. To determine the efficacy of this kind of treatment, a pilot open study was initially done in 20 patients who were randomized to 2 equal groups that were treated with either acupuncture or placebo treatment. The efficacy of acupuncture and placebo were calculated to be 70% and 40 % in term of urticaria episode duration.

40 patients were selected and matched and were randomized in 2 group of cases and controls group The patients in the cases group were treated with correct method in the especial points of acupuncture( points G31-G20-B40- L14). In the controls group, patients were treated with needles on the body but not in the skin and not in the especial points of the acupuncture. The method of treatment was unrevealed for patients and investigators until end of the study.

Data including patients' characteristics, episode rate of urticaria and the duration of each episode were recorded in prepared questionnaires. The normality of the distribution of data was tested by Kolmogorov-Smirnov test. The collected results were analyzed by using repeated measure ANOVA test and SPSS release 12 program. This study was performed in Skin Diseases and Leishmaniasis Research Center and Isfahan University of medical Sciences clinics.

**RESULTS**

All of the 40 patients completed the study. The patients' demographic characteristics were comparable and not significantly different (Table 1).

The mean of attacks rate per week in the first week of

treatment was 5.5 for controls group and 5.15 for cases group and this difference was not significant (P=0.94).

The distribution of data for duration of urticaria and frequency of them had normal distribution through out the study course. Comparison of the mean of attack rate in the acupuncture and the placebo treated patients are shown in table 2. According to repetition test, the frequency of the urticaria in acupuncture treated patients had significant reduction as compared with placebo treated group.

The mean duration of urticaria attack in the first week of treatment was 6.82 hours and 6.77 hours for controls and cases group, respectively (P=0.96).

These values were 5.48 hours and 4.4 hours in the second week of treatment, respectively. During 3<sup>rd</sup> week of treatment, the mean duration of urticaria attack in the controls group was 5.08 and in the cases in the 2.37 (P= 0.003). The mean duration of urticaria attack through out 3 weeks of study is shown in table 3.

As a whole, acupuncture was able to reduce both episode rate and episode duration of urticaria as much as 25% when compared with placebo throughout the duration of study ( P=0.01 and p=0.03 respectively).

**Figure 1**

Table 1: Demographic characteristics of the patients

Patients Characteristics:	Acupuncture treated group: Number=20	Placebo treated group: Number=20
Male	8 (40%)	7 (35%)
Female	12 (60%)	13 (65%)
Age (Mean and SD)	30 +12.1	28 +14.1
Duration of Urticaria	12 + 2.3	11.2 + 4.5

**Figure 2**

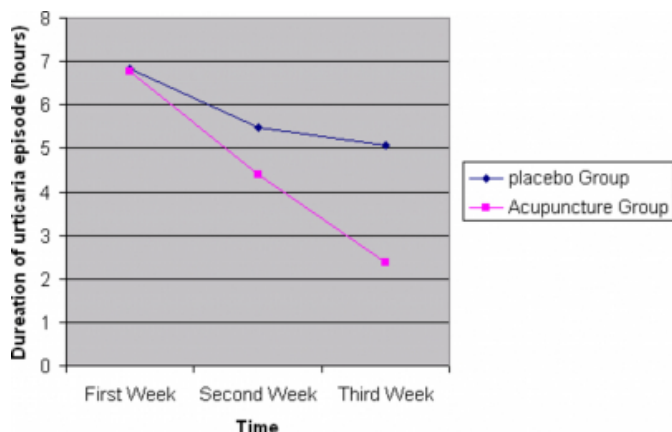
Table 2: mean number of urticaria attack through out the 3 weeks of study in the acupuncture and placebo group

Time:	Variable:	Mean+ Standard Deviation	CI 95%	P Value
First Week	Placebo	5.5+2.1	4.6-6.5	0.9
	Acupuncture	5.2+2.1	4.3-6.2	
Second Week	Placebo	4+1.8	3.2-4.8	0.01*
	Acupuncture	3.2+1.7	2.4-4	
Third Week	Placebo	4.5+1.7	3.7-5.2	0.0001*
	Acupuncture	2.2+1.6	1.4-2.9	

\* Significant

**Figure 3**

Graph 1: Efficacy of acupuncture and the placebo in the reduction of urticaria duration. P Value=0.03



## DISCUSSION

The exact mechanisms of acupuncture in the remission of dermatologic diseases are unclear. At least three key components are implicated in acupuncture stimulation: the hypothalamus pituitary-adrenal axis, the autonomic nervous system, and brain-derived neurotrophic factor (18). Malizia et al. (20) have suggested that electro acupuncture can cause  $\beta$ -endorphin and corticotrophin release into the peripheral blood (21). Lee et al. showed that acupuncture on Zusanli significantly increases serum levels of cortisol (21). Furthermore, by functional magnetic resonance imaging (MRI), it was proven that the hypothalamus-limbic system is distinctively activated by manual needle acupuncture (22, 23).

Studies have shown that acupuncture can decrease pruritic and inflammatory effects of histamine (24).

Acupuncture trigger points are representative of low electrical resistance points (19). Nowadays, filiform Steel needles the most popular needles used in the acupuncture. The diameter of needles ranges from 0.2 mm to 0.5 mm and the length of them ranges from 1cm to 10cm. During the procedure, patients must lie with relaxation in supine position. This position seems to be best position for prevention of fainting and for maximum concentration of patients. Acupuncture needles are inserted vertically between thumb finger from one side and index and middle finger from other side. Penetration of skin must be rapid. The needle should be kept in their places for 10 to 30 minutes. The needle should not produce point and the patient should not move during the procedure (19). The side effect of treatment with acupuncture included fainting, local infections and damage to internal organs.

In the previous uncontrolled study, the efficacy of acupuncture was reported to be 90% (4). In addition, the efficacy of acupuncture in chronic urticaria in uncontrolled study were reported to range from 30% to 50% (4). Addition of some special points on the ears to normal points in regular acupuncture have been reported to increase the efficacy of acupuncture to 96% (4).

The results of our study showed that mean of attack rate and mean duration of urticaria attack was reduced in the acupuncture treated patients and this effects was mostly seen a in the 3<sup>rd</sup> week of treatment. In this study, we did not observe any side effect either in cases group or controls group. Good corporation between dermatologists and acupuncture institute are necessary to give the patients this modality of treatment. Regarding the efficacy and the softly profile of acupuncture, we suggest that acupuncture can be used for the treatment of chronic urticaria especially in the resistant forms.

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