**Effects of Acupuncture on Chronic Idiopathic Pruritus: An Uncontrolled Pilot Study Evaluating Inflammatory Changes with Treatment**

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**Abstract**

**Purpose**: Conduct a pilot study addressing the efficacy of acupuncture in the treatment of chronic idiopathic pruritus to aid in the design of a larger clinical trial. Routine laboratory tests to aid in elucidation of inflammatory markers were performed to monitor efficacy of treatment.

**Design**: Patients with chronic pruritus who did not respond to standard treatment were recruited to participate. After exclusion of systemic or known reversible causes, each patient received up to 10 treatments which were performed approximately one week apart. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were measured before and after a series of acupuncture treatments to evaluate levels of inflammation, and pre- and post-treatment surveys were conducted to evaluate levels of perceived itch.

**Results**: Only one of the ten patients in this study possessed an elevation of ESR before treatment. This patient’s ESR value returned to normal range after treatment and this patient reported subjective relief of her pruritus.

**Conclusion**: Future studies on the efficacy of acupuncture in the treatment of chronic idiopathic pruritus should focus on those patients with measurable levels of inflammation at the initiation of the study or utilize alternative and more comprehensive values to monitor disease response.

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**Methods/Study Design**

Patients who experienced persistent itch for longer than 6 weeks and did not respond to treatment with topical steroids and oral antihistamines were recruited to participate in this study. This exclusion criterion was chosen as it is the standard of care for idiopathic pruritus and is consistent with most published studies. Patients who were diagnosed with idiopathic pruritus were reviewed with the patients.

**Design**

**Purpose**: To evaluate the efficacy of acupuncture on chronic idiopathic pruritus.

**Design**: An uncontrolled, pilot study.

**Participants**

Patients with chronic pruritus who did not respond to standard treatment were recruited to participate. After exclusion of systemic or known reversible causes, each patient received up to 10 treatments which were performed approximately one week apart. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were measured before and after a series of acupuncture treatments to evaluate levels of inflammation, and pre- and post-treatment surveys were conducted to evaluate levels of perceived itch.

**Results**

**Table 1** (Pre- & Post Tx Lab Values)

<table>
<thead>
<tr>
<th>Patient #</th>
<th>Gender</th>
<th>Age (y)</th>
<th># of Tx</th>
<th>ESR 1</th>
<th>ESR 2</th>
<th>CRP 1</th>
<th>CRP 2</th>
<th>Days 7+ Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>40</td>
<td>10</td>
<td>18</td>
<td>12</td>
<td>3.5</td>
<td>4.2</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>50</td>
<td>9</td>
<td>13</td>
<td>14</td>
<td>2.5</td>
<td>3.4</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>60</td>
<td>8</td>
<td>12</td>
<td>14</td>
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<tr>
<td>4</td>
<td>F</td>
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<td>13</td>
<td>14</td>
<td>2.5</td>
<td>3.4</td>
<td>12</td>
</tr>
</tbody>
</table>

**Table 2** (Pre- & Post Tx Patient Survey Values)

<table>
<thead>
<tr>
<th>Patient #</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Q6</th>
<th>Q7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
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<tr>
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<tr>
<td>4</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

**Figure 1** (Patient Survey Questions)

1. On a scale of 1 to 10, how bad is your itching? 10
2. Do you feel that your itch has affected your work or daily activities? Y/N
3. How many hours of sleep do you get every night? 1-10
4. How much help do you get from family or friends? Y/N
5. How long does itching last? 1-10
6. Do you have a rash in the areas you are itching? Y/N
7. Do you itch on your face every day? Y/N

**Discussion**

Of note, Patient 10, the one patient who did present with elevated ESR value before treatment, did in fact show complete resolution in her pruritus as indicated by survey Questions 2-6, suggesting she may be an outlier. As there was only one other patient with clinically significant inflammation as evidenced by CRP or ESR at the initiation of the study, the assumption that these values are reliable markers of chronic idiopathic pruritus and their reliability in future investigations should be questioned. Indeed, previous studies have shown that the normal range of both ESR and CRP can be extended as a part of the normal aging process and thus may be falsely interpreted to be clinically significant in older populations, and this was not taken into consideration in this pilot study.

Informal data extracted from treatment sessions and office notes revealed that 7 out of 10 patients reported relief from itching following treatment. One proposed explanation for these discrepancies is that patients may be more likely to exaggerate their responses if presented formal written questions, and the severity of reported symptoms vary at any given time, were captured only at two specific instances. Undoubtedly, the severity level of pruritus within an individual can vary substantially even throughout the course of a simple day. This effect could be reduced in the future by increasing the number of instances at which patients are presented surveys and broadening the scale and scope of questions.

Most patients did not alter the answers they gave to the “Yes” or “No” dichotomous questions following treatment as evidenced in Question 2 through Question 6. This data conflicts with informal reports and documentation taken from office notes in which the majority of patients did alter their responses to each question.

Ultimately, this pilot study serves as a first step in determining whether or not acupuncture may be an effective treatment for chronic idiopathic pruritus and questions whether or not diseases severity can be accurately measured by conventional laboratory testing. Future and more comprehensive studies are necessary to determine whether or not this treatment modality can significantly benefit patients not adequately treated with traditional means.

**References**