Acupuncture in a Rheumatology Clinic

Rosemary Alexander, Adrian White

Key words
Acupuncture, Rheumatology, Hospital outpatient clinic, Prospective observational study, Pain score.

Summary
An acupuncture clinic was established, for a limited period, within a rheumatology department of Barnet and Chase Farm Hospital Trust. Courses of six to eight sessions of traditional and trigger-point acupuncture were offered for a specified range of conditions. Pain and use of analgesics were measured routinely. A prospective observational study is presented of the outcome for a series of 41 patients, who had a mean age of 57 years and pain duration of 3 years. The mean score for daytime pain fell from 6.8 (SD 1.2) to 4.9 (2.5) points which is highly significant (p < 0.001). A total of 30 patients (73%) had reduction in pain of at least 33% and 22 patients (54%) had a reduction in pain of at least 50%. Analgesic intake (without distinguishing between different analgesic medication) was reduced from a mean of 17 (15.3) tablets per week to a mean of 6 (7.9). Patients with normal X-rays had a much better response to acupuncture than those whose X-rays showed significant degenerative changes. In response to these findings, financial support has been provided to continue the acupuncture clinic.

Introduction
The first author worked as a part-time Clinical Assistant in the Rheumatology Clinic of Barnet and Chase Farm Hospitals Trust. Having learnt acupuncture in Sri Lanka and having also attended a course in Shanghai, she began to use acupuncture for appropriate patients in the clinic. In 1997, she was invited to set up an acupuncture clinic within the Rheumatology Department, which was funded internally from Department resources. The clinic was initially set up on a temporary basis. In order to demonstrate the effectiveness of acupuncture treatment, a prospective observational study was made of the progress of 41 patients. This paper presents the results of that study.

Methods
The clinic, staffed by one doctor acupuncturist (RA) and one nurse, was held on one half day per week. Patients were referred principally by one consultant Rheumatologist at Barnet Hospital, with occasional referrals from the other two consultants. The criteria for appropriate referral were drawn up by RA from personal experience. These were given to the consultants (see Table 1) in order that acupuncture could be offered only to those who would benefit most. In all patients, an X-ray examination was performed of the relevant part before referral, and a formal diagnosis was made.

The acupuncture points used were mainly those as recommended by the Beijing Academy of Traditional Chinese Medicine, with the addition of some trigger points. Needles were mostly 25 to 75 mm in length and manufactured by Seirin or Acumedic. All patients were treated by needles alone at the first attendance. Electroacupuncture was added at the second treatment (except in strong reactors) using continuous frequency between 10 and 100 Hz initially, followed by dense-disperse stimulation in the range of 2-80 to 5-100 Hz according to response. Six treatments were offered although more could be given if appropriate. When patients showed no response to three sessions, treatment was stopped in order to use resources most appropriately.

Baseline data were collected by the nurse whenever she was available when patients first attended. When she was absent, no other nurse was provided so baseline data were not collected. The patients’ condition was measured at each clinic attendance using a numerical rating scale for pain. On arrival, they were asked to rate
the average pain during the previous week on a standard form of scale from 1 to 10, 1 being labelled ‘mild pain’ and 10 labelled ‘severe pain’. In retrospect, we would have preferred a scale with a minimum of zero indicating ‘no pain’. In fact, the scale was used flexibly and zero scores were recorded. Day pain and night pain were scored separately. Patients were also asked to report the number and type of analgesic drugs they had used in the previous week.

Patients included in the study are those who attended during the time period, who had a working knowledge of English, and who provided data at baseline and at final attendance. Analysis was performed using Microsoft Excel 97 and Statistics Package for Social Scientists version 9.0.

### Results

Data are presented on 41 patients who were referred to the clinic between January 1998 and March 1999, when it was closed. In some cases treatment was interrupted because of holidays of patient and leave of the acupuncturist, so the circumstances were less than ideal. The mean age of the patients was 57.0 years, with a range of 28 to 84 years. Five were male, 36 female.

The patients’ main diagnoses are presented in Table 2. The median duration of pain was 3 years, with a range of 6 months to 18 years. Fourteen patients had had their pain for less than 2 years, eight for between 2 and 3 years, sixteen from 4 to 9 years, and three for 10 years or more. The latter three cases were as follows: one had knee pain from osteoarthritis for 15 years; one had lower back pain for more than 18 years, one had fibromyalgia for 17 years causing pain in neck and shoulders.

The mean number of treatments given to each patient was 5.6 (SD 1.0). Six patients received only three to five sessions, one because of work commitments, one because of an exacerbation of

### Table 1

**REFERRAL CRITERIA FOR RHEUMATOLOGY ACUPUNCTURE CLINIC, DRAWN UP BY EXPERIENCE**

**Musculoskeletal conditions suitable for acupuncture**

**Neck pain**
- *Cervical spondylosis*
- Whiplash injury
- Cervical radiculopathy < 5 years
- Facet joint dysfunction
- Small PID
- Other ‘arthritis’ (low ESR)

**Thoracic pain**
- Degenerative disease < 5 years
- Small PID
- Facet joint dysfunction
- Arthritis’ (low ESR)
- Costochondritis

**Low back pain and leg pain**
- Degenerative disease < 5 years
- Small PID
- Facet joint dysfunction
- Sciatica or other nerve root lesion
- *Spasm of piriformis*
- *Trochanteric bursitis*
- Meralgia paraesthetica

**Knee pain**
- Osteoarthritis (pre-steroid injection)
- Other ‘arthritis’ (low ESR)

**Ankle and foot pain**
- Osteoarthritis
- Metatarsalgia
- Plantar fasciitis

**Shoulder pain**
- Adhesive capsulitis
- Rotator cuff lesion
- Osteoarthritis
- Polymyalgia rheumatica (low ESR)

*Indicates that a quick response is normally expected

### Table 2

**CONDITIONS OF 41 PATIENTS REFERRED FOR ACUPUNCTURE TREATMENT IN A RHEUMATOLOGY CLINIC, AND THEIR RESPONSE TO TREATMENT**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number (%)</th>
<th>33% pain reduction</th>
<th>50% pain reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neck (or neck &amp; shoulder) pain</td>
<td>18 (44%)</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Back pain</td>
<td>8 (20%)</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Shoulder pain</td>
<td>8 (20%)</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Knee pain</td>
<td>3 (7%)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Headache</td>
<td>1 (2%)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pain in more than 2 joints</td>
<td>1 (2%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td>1 (2%)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Face/jaw pain</td>
<td>1 (2%)</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
symptoms and difficult domestic circumstances, and four due to lack of response. No patient attended more than 8 times. No adverse reactions were reported.

Analysis of daytime pain showed that all patients scored 5 or more at the outset, and that there was a marked downward trend in the daytime pain scores with several patients achieving zero or one. Three patients, however, scored no change in pain and three rated their pain higher at discharge. The median daytime pain scores for each week of treatment, together with the numbers attending, are shown in Table 3.

The median daytime pain score at beginning of treatment was 7.0 (interquartile range 2.0) and was reduced during the course of treatment to 3.0 (9.0). Responder rates were calculated: 30 patients (73%) had a reduction in pain of at least 33% and 22 patients (54%) had a reduction in pain of at least 50%. The number who improved with the course of acupuncture treatment was highly significant compared with the number who showed no benefit (p < 0.001, Wilcoxon Signed Rank test for related samples). The response for the various categories of condition are shown in Table 2.

Night pain was scored as greater than zero by 35 patients at baseline. Two patients recorded more severe night pain at discharge, and in 3 cases the pain was unchanged. The median score for night pain was 7.0 points (inter-quartile range 3.0) at the beginning of treatment, and fell to 3 (4.0) at the end. There was a 33% reduction of pain in 21 patients (60%) by the end of treatment, and a 50% reduction in 17 (48%). As before, the number of patients who responded was highly significantly greater than the number failing to respond (p = 0.001, Wilcoxon Signed Rank test for related samples).

There was no relationship between the response rate and the duration of pain (Figure 1). Analgesic intake, analysed without distinguishing between different medications, was reduced from a mean of 17 (SD 15.3) tablets per week to a mean of 6 (SD 7.9), with a maximum reduction of 56 in one patient. The maximum increase in intake was 2 tablets per week.

Discussion

The majority of rheumatology patients who were given acupuncture for chronic pain experienced worthwhile pain relief by the end of treatment. These patients either were not appropriate for other treatment, such as joint injection, or had

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**Table 3**

<table>
<thead>
<tr>
<th>Week</th>
<th>N=</th>
<th>Median Pain score (scale 1-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>41</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>41</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>37</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>3.5</td>
</tr>
<tr>
<td>6</td>
<td>16</td>
<td>3.5</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

**Figure 1.** Numbers of acupuncture patients achieving 50% reduction in daytime pain, for different duration of pain

**Figure 2.** Changes in daytime pain in relation to X-ray changes
not been helped by treatment, such as physiotherapy. This study was, however, uncontrolled and therefore cannot provide evidence on the effect of the needles themselves (i.e. the specific effect of acupuncture) as distinct from the effect of placebo.

As a result of the success of this clinic, documented in detail in this observational study, it was decided that funding should continue. However, some clinic time had to be made available for routine (conventional) assessment of newly referred patients. The marginal (i.e. additional staffing) cost of each clinic was estimated at about £100.

The lack of relationship between duration of pain and treatment was surprising. It may reflect the fact that patients with a short duration of pain are more likely to be referred to a rheumatology clinic if their pain is severe. In contrast, lack of degenerative changes on X-ray generally predicted a good response to acupuncture.

Some patients who did not meet the referral criteria were, nevertheless, given acupuncture at the specific request of the referring rheumatologist, and included in the study. The five-year limit in duration of disease was exceeded in several of the cases referred. Contrary to expectation, some patients with a long history of degenerative disease responded well. One patient with inflammatory arthropathy was referred because she was attempting to become pregnant and therefore could not take disease-modifying anti-rheumatic drugs. Three other patients would probably not have been offered acupuncture in other circumstances: two were awaiting compensation from insurance companies, and one had significant depression. All these four patients failed to show a useful response to acupuncture treatment.

The previously published descriptive and controlled studies of the effect of acupuncture on inclusive rheumatology clinic patients have been recently reviewed by Berman. Although good results have been achieved in several studies that compared the effect of acupuncture with no additional treatment, sham-controlled studies have not been able to demonstrate a specific effect of the needles. This may relate to difficulties with finding an inactive sham control intervention. One randomized, sham-controlled trial demonstrated a clear effect of acupuncture for fibromyalgia.

In conclusion, 73% of rheumatology patients included in this study showed at least a 33% improvement in pain after acupuncture treatment. There was a considerable reduction in the intake of analgesic drugs. Patients with moderate or severe degenerative changes on X-ray did not respond as well as those with X-rays showing no abnormality.

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Reference List
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