Long-Term Follow-up of a Randomized Clinical Trial Assessing the Efficacy of Medication, Acupuncture, and Spinal Manipulation for Chronic Mechanical Spinal Pain Syndromes

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This study is a follow-up to the study in Spine, July 15, 2003, which showed the short-term superiority of chiropractic adjustment over Celebrex, Vioxx, and acupuncture in treating chronic spine pain. [Giles LGF, Muller R. Chronic spinal pain: a randomized clinical trial comparing medication, acupuncture and spinal manipulation Spine 2003;28:1490-1503].

Chronic Spinal Pain: A Randomized Clinical Trial Comparing Medication, Acupuncture, and Spinal Manipulation


<table>
<thead>
<tr>
<th>Treatment</th>
<th>Drugs (Celebrex or Vioxx)</th>
<th>Acupuncture</th>
<th>Chiropractic Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years Of Chronic Spinal Pain</td>
<td>4.5 or 6.4</td>
<td>4.5 or 6.4</td>
<td>8.3</td>
</tr>
<tr>
<td>% Asymptomatic within 9 weeks</td>
<td>5%</td>
<td>9.4%</td>
<td>27.3%</td>
</tr>
<tr>
<td>% That suffered an adverse event</td>
<td>6.1%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>% Improvement In General Health Status</td>
<td>18%</td>
<td>15%</td>
<td>47%</td>
</tr>
</tbody>
</table>
Objective
To assess the long-term benefits of medication, needle acupuncture, and spinal manipulation as exclusive and standardized treatment regimens in patients with chronic (>13 weeks) spinal pain syndromes.

Study Design
Extended follow-up (>1 year) of a randomized clinical trial was conducted at the multidisciplinary spinal pain unit of Townsville's General Hospital between February 1999 and October 2001.

Patients and Methods
Of the 115 patients originally randomized, 69 had exclusively been treated with the randomly allocated treatment during the 9-week treatment period (results at 9 weeks were reported earlier).

These patients were followed up and assessed again 1 year after inception into the study reapplying the same instruments (ie, Oswestry Back Pain Index, Neck Disability Index, Short-Form-36, and Visual Analogue Scales).

Questionnaires were obtained from 62 patients reflecting a retention proportion of 90%.

The main analysis was restricted to 40 patients who had received exclusively the randomly allocated treatment for the whole observation period since randomization.

Results
Comparisons of initial and extended follow-up questionnaires to assess absolute efficacy showed that only the application of spinal manipulation revealed broad-based long-term benefit: 5 of the 7 main outcome measures showed significant improvements compared with only 1 item in each of the acupuncture and the medication groups.

Conclusions
In patients with chronic spinal pain syndromes, spinal manipulation, may be the only treatment modality of the assessed regimens that provides broad and significant long-term benefit. [Very Important]

THESE AUTHORS ALSO NOTE:

Chronic spinal pain is often triggered by injury or disease.

For mechanical spine pain, a pathological cause cannot be identified, only about 15% of patients are given a definitive diagnosis, and a specific diagnosis is often impossible. [Important]
Chronic spinal pain has an immense impact on public health, poses an enormous financial strain on the health systems in developed countries, and affects the economy by lost working time through illness.

The high incidence of back pain, its chronic and recurrent nature in many patients, is a main cause of absence from work.

These authors have shown [In the July 15, 2003 Spine study] that spinal manipulation results in greater short-term (9 weeks) improvement than acupuncture and medicine.

"The present study assesses the extended follow-up (of at least 1 year) efficacy of medication, needle acupuncture, and spinal manipulation, as standardized and exclusive treatment regimens."

In the 2003 Spine study, these authors randomly allocated medication, needle acupuncture, or spinal manipulation to chronic spine patients. A range of validated subjective questionnaires and objective measurements were taken initially and at the end of the study treatment period to assess the improvements in these patients. In this current study, these authors used the same questionnaires a year later to assess the stability of the acute findings.

Patients were excluded from this study if they had nerve root involvement, spinal anomalies other than sacralization or lumbarization, pathological conditions other than mild to moderate osteoarthrosis, greater than a grade 1 spondylolisthesis of L5 on S1, previous spinal surgery, or leg length inequality of >9 mm with postural scoliosis. [This means the most difficult patients were eliminated]

The medication patients were given Celebrex or Vioxx followed by acetaminophen.

The acupuncture was performed using standard needles placed in local paraspinal intramuscular maximum pain areas, and approximately 5 needles were placed in distal acupuncture point meridians according to the “near and far” technique (upper limb, lower limb, or scalp). Needle agitation was performed by turning or 'flicking' the needles at approximately 5-minute intervals. Two 20-minute office visits per week were given until patients became asymptomatic or achieved a status of feeling that they had achieved acceptable pain relief.

High-velocity low-amplitude spinal manipulative thrust to a joint was performed by the treating chiropractor for the spinal level of involvement to mobilize the spinal joints at that level.

Two chiropractic spinal manipulations per week were given until patients became asymptomatic or achieved a status of feeling that they had achieved acceptable pain relief.
“Statistical testing revealed that only in the manipulation group, 5 of the 7 observed improvements were statistically significant which compares with only 1 item in each of the acupuncture and the medication groups, respectively.”

DISCUSSION

The patients in this study had chronic spinal pain (average duration of more than 2 years) and had long histories of having sought pain relief.

“The overall results of this extended follow-up efficacy study appears to favor the application of manipulation” which successfully achieve long-term benefits in chronic spinal pain syndrome patients.

“No such benefit could be observed for medication.”

These results corroborate the findings of the 9-week analysis (Spine, July 15, 2003).

Patients were allowed to change treatment groups if the treatment was not helping. Importantly, “manipulation showed by far the lowest proportion (38.7%) of changeovers compared with acupuncture (53.3%) and medication (81.2%).”

[IMPORTANT]

“Spinal manipulation appeared to provide the highest satisfaction.”

Both the 9-week findings and the extended follow-up results are consistent with others who conclude that “those treated by chiropractic derived more short-term and long-term benefit and satisfaction than those treated by hospital therapists.”

“Medication apparently did not achieve an improvement in chronic spinal pain, although the SF-36 indicator of general health status did show an improvement for general health status.”

CONCLUSIONS

These authors also note that chronic mechanical spinal pain syndromes “compromised immune function.” [Extremely important for chiropractors who look outside the musculoskeletal box]

“Patients who have chronic mechanical spinal pain syndromes and received spinal manipulation gained significant broad-based beneficial short-term and long-term outcomes.”

“For patients receiving acupuncture, consistent improvements were also observed, although without reaching statistical significance (with a single exception). For patients receiving medication, the findings were less favorable.”
KEY POINTS FROM DAN MURPHY

1) The first study (Spine, July 15, 2003) showed that in treating chronic spine pain for 9 weeks, that chiropractic spinal adjusting was better than 5 times more effective than the drugs Celebrex or Vioxx.

2) This study showed that in the one-year follow-up to the different treatments of chronic spine pain, specific chiropractic manipulation resulted in statistically significant improvement in 5 of 7 outcomes, compared with only 1 improvement outcome in both the acupuncture and the drug groups. This indicates that the therapeutic benefit of chiropractic spinal manipulation is largely stable for at least a year, much better than either drugs (Celebrex / Vioxx) or needle acupuncture.

3) For mechanical spine pain, a pathological cause cannot be identified, only about 15% of patients are given a definitive diagnosis, and a specific diagnosis is often impossible.

4) In this study, spinal manipulation provided the highest satisfaction as compared to drugs (Celebrex / Vioxx) or needle acupuncture.

5) In this study and in two prior hospital studies, “those treated by chiropractic derived more short-term and long-term benefit and satisfaction than those treated by hospital therapists.” [GREAT!]

6) Drugs did not achieve an improvement in chronic spinal pain.

7) Chronic mechanical spinal pain syndromes compromise immune function. [Very important]