

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

Spine July 15, 2003; 28(14):1490-1502

Lynton G. F. Giles, DC, PhD; Reinhold Muller, PhD

FROM THE ABSTRACT:

Study Design.

A randomized controlled clinical trial was conducted.

Objective.

To compare medication, needle acupuncture, and spinal manipulation for managing chronic (>13 weeks duration) spinal pain because the value of medicinal and popular forms of alternative care for chronic spinal pain syndromes is uncertain.

Summary of Background Data.

Between February 1999 and October 2001, 115 patients without contraindication for the three treatment regimens were enrolled at the public hospital's multidisciplinary spinal pain unit.

Methods.

One of three separate intervention protocols was used: medication, needle acupuncture, or chiropractic spinal manipulation.

[THE MANIPULATION WAS DONE BY CHIROPRACTORS]

Patients were assessed before treatment by a sports medical physician for exclusion criteria and by a research assistant using the Oswestry Back Pain Disability Index (Oswestry), the Neck Disability Index (NDI), the Short-Form-36 Health Survey questionnaire (SF-36), visual analog scales (VAS) of pain intensity and ranges of movement.

These instruments were administered again at 2, 5, and 9 weeks after the beginning of treatment.

Results.

The highest proportion of early (asymptomatic status) recovery was found for manipulation (27.3%), followed by acupuncture (9.4%) and medication (5%).

[WOW!]

Manipulation achieved the best overall results, with improvements of 50% on the Oswestry scale, 38% on the NDI, 47% on the SF-36, and 50% on the VAS for back pain, 38% for lumbar standing flexion, 20% for lumbar sitting flexion, 25% for cervical sitting flexion, and 18% for cervical sitting extension.

[WOW, THIS SHOWS SUBJECTIVE IMPROVEMENT, FUNCTIONAL IMPROVEMENT, OBJECTIVE IMPROVEMENT IN RANGE OF MOTION, AND SIGNIFICANT IMPROVEMENT IN GENERAL HEALTH STATUS]

However, on the VAS for neck pain, acupuncture showed a better result than manipulation (50% vs 42%).

Conclusions.

The consistency of the results provides evidence that in patients with chronic spinal pain, manipulation, if not contraindicated, results in greater short-term improvement than acupuncture or medication.

However, the data does not strongly support the use of only manipulation, only acupuncture, or only nonsteroidal anti-inflammatory drugs for the treatment of chronic spinal pain.

THESE AUTHORS ALSO NOTE:

"A pathologic cause cannot be identified for most episodes of spinal pain, and clinicians often have great difficulty establishing the underlying cause."

"Only about 15% of patients receive a definitive diagnosis because it often is impossible to reach specific diagnosis."

"Numerous studies have shown that patients with low back pain do exhibit abnormal spinal motion."

"The proportion of primary care patients with uncomplicated spinal pain who have poor outcomes appears to be higher than generally recognized."

"Adverse reactions to nonsteroidal anti-inflammatory (NSAID) medication have been well documented."

"Gastrointestinal toxicity induced by NSAIDs is one of the most common serious adverse drug events in the industrialized world." **[WOW!]**

"The newer COX-2-selective NSAIDs are less than perfect, so it is imperative that contraindications be respected."

There is "insufficient evidence for the use of NSAIDs to manage chronic low back pain, although they may be somewhat effective for short-term symptomatic relief." **[IMPORTANT]**

The drugs used in this study were Celebrex (200-400 mg/day); the next drug of choice was Vioxx (12.5-25 mg/day), followed by paracetamol (up to 4 g/day).

Acupuncture was performed by one of two experienced acupuncturists. Two acupuncture treatments per week were given.

High-velocity, low-amplitude thrust spinal manipulation to a joint was performed by a chiropractor at the spinal level of involvement to mobilize the spinal joints. Two treatments per week were given.

Patients were assessed at the initial visit and then at weeks 2, 5, and 9 after the initial treatment.

For the subjective measurements used the Oswestry Questionnaire for low back and thoracic spine pain, the Neck Disability Index (NDI) for neck pain, and the Short-Form-36 Health Survey questionnaire (SF-36).

The visual analog scale (VAS) was used to assess subjective pain intensity.

RESULTS

Of the initial 533 patients were seen, 418 (78.4%) had to be excluded, mainly for pathology other than mild to moderate osteoarthritis or spondylolisthesis of L5 on S1 greater than Grade 1. **[INTERESTING]**

115 patients remained eligible to participate in the study.

The average duration of spinal pain symptoms was 8.3 years for the spinal manipulation group, 6.4 years for the medication group, and 4.5 years for the acupuncture group.

[THE CHIROPRACTIC GROUP WAS THE MOST CHRONIC GROUP]

"The highest proportion of asymptomatic patients before or at the week 9 assessment was found in the manipulation group (n = 9, 27.3%) followed by the acupuncture group (n = 3, 9.4%) and the medication group (n = 2, 5%)."

"Manipulation yielded the best results over all the main outcome measures except the NDI, for which acupuncture achieved a better result than manipulation."

Confounding of variables such as age, gender, body mass index, pain duration, and involvement in litigation were not correlated with the main outcome measures.

[IMPORTANT, ESPECIALLY WITH RESPECTS TO LITIGATION]

DISCUSSION

The authors note "any small possible placebo effect would have been distributed equally across the three treatment regimens in this study, not imparting any advantage to one group."

"The results of this efficacy study suggest that spinal manipulation, if not contraindicated, may be superior to needle acupuncture or medication for the successful treatment of patients with chronic spinal pain syndrome, except for those with neck pain."

"The NDI showed that for neck pain, acupuncture achieved a better result than manipulation. Considering that the patients in this study had experienced chronic spinal pain syndrome for an average of 4.5 years in the medication group, 6.4 years in the acupuncture group, and 8.3 years in the spinal manipulation group, it is notable that manipulation, during a maximum treatment duration of 9 weeks, achieved asymptomatic status for every fourth patient (27%)." **[IMPORTANT]**

"This result is superior to the percentages for acupuncture (9.4%) and medication (5%) for short-term outcomes." **[IMPORTANT]**

"Medication apparently did not achieve a marked improvement in chronic spinal pain and caused adverse reactions in 6.1% of the patients. The adverse symptoms disappeared once medication was stopped." **[IMPORTANT]**

"Interestingly, although "new" medication (i.e., not previously tried by patients) showed no significant improvement for the subjective pain and disability measures or the objective measures, the SF-36 did show an improvement of 18% for general health status, as compared with 15% for acupuncture and 47% for spinal manipulation." **[WOW, THIS MIGHT BE THE MOST IMPORTANT FINDING: A 47% IMPROVEMENT IN GENERAL HEALTH STATUS FOR THE CHIROPRACTIC SPINAL MANIPULATION GROUP]**

"Because the patients had chronic spinal pain syndromes, it is unlikely that improvement resulted from "self-limiting" spinal pain, as could be the case with acute spinal pain."

"In summary, the significance of the study is that for chronic spinal pain syndromes, it appears that spinal manipulation provided the best overall short-term results, despite the fact that the spinal manipulation group had experienced the longest pretreatment duration of pain."

These authors will provide data on 12-month follow-up status of these patients in about 1 year.

KEY POINTS FROM DAN MURPHY

- 1) It is impossible to reach a specific diagnosis for the pathologic cause for 85% of those with an episode of spinal pain.
- 2) Patients with low back pain do exhibit abnormal spinal motion.
- 3) There is insufficient evidence for the use of NSAIDs to manage chronic low back pain.
- 4) The new COX-2 nonsteroidal anti-inflammatory (NSAIDs) have problems and significant contraindications.
- 5) Gastrointestinal toxicity induced by NSAIDs is one of the most common serious adverse drug events in the industrialized world.
- 6) In this study, in the medication group, more patients experienced adverse events (6.1%) than recovered from their spinal complaints (5%).
- 7) Even though the chiropractic treatment group was the most chronic (8.3 years), 27.3% recovered with 18 spinal adjustments over a period of 9 weeks, or less. **[VERY IMPRESSIVE]**
This means that better than every fourth patient became asymptomatic with 9 weeks or less of chiropractic manipulation, even though they had been chronic for more than 8 years. **[WOW!]**
- 8) The chiropractic treatment group showed significantly greater improvement in subjective complaints, functional abilities, objective range of spinal motion, and in general health status than acupuncture and medication.
- 9) In this study, patient involvement in litigation did not influence the outcome measures.
- 10) In the treatment of chronic spinal pain, chiropractic manipulation is superior to acupuncture and medication.

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

Spine, July 15, 2003; 28(14): 1490-1502

Treatment	Drugs (Celebrex or Vioxx)	Acupuncture	Chiropractic Adjustments
Years Of Chronic Spinal Pain	4.5 or 6.4	4.5 or 6.4	8.3
% Asymptomatic within 9 weeks	5%	9.4%	27.3%
% That suffered an adverse event	6.1%	0%	0%
% Improvement In General Health Status	18%	15%	47%