

Clinical Considerations in Treating Neck Pain

UCLA STUDY PROVIDES FOOD FOR THOUGHT

Editorial Staff

As with back pain, people with neck pain will often seek the services of a doctor of chiropractic for treatment - in fact, studies published in *Spine*¹ and the *American Journal of Public Health*² indicate that neck pain is the number-two reason people visit a chiropractor for care.

However, relatively few studies have been published comparing the effectiveness of chiropractic care to other therapies in the treatment of neck pain. Even less is known about the potential for side-effects that could occur as a result of specific chiropractic care for neck pain, a conundrum that apparently intrigued researchers. The results of their investigation, supported in part by a grant from the National Chiropractic Mutual Insurance Company (NCMIC), may come as a great surprise to most practicing doctors of chiropractic.

Published in the July 1, 2005 issue of *Spine*,³ the study suggests that the procedures used by chiropractors to treat neck pain may cause an unexpected reaction in up to three of every 10 patients. However, the majority of those reactions appear to be minor in nature, and often amount to little more than the patient suffering a sore or stiff neck.

In the study, 336 patients ages 18 to 70, all complaining of neck pain (but who had not received treatment for a minimum of one month), were randomized to receive either manipulation or mobilization of the cervical spine, along with one other accompanying modality. The patients were allocated to one of six groups: manipulation (with or without heat); manipulation (with or without electrical muscle stimulation [EMS]); and mobilization (with or without EMS).

Patients in the spinal manipulation groups received a minimum of one high-velocity, low-amplitude "controlled dynamic thrust," directed at one or more restricted joint segments of the upper thoracic and/or cervical spine. Mobilization patients received one or more "movements of low velocity and variable amplitude" directed at the same area. Patients in the heat and EMS subgroups received 10 minutes of heat or electrical muscle stimulation, respectively, before receiving manual therapy.

At baseline, patients in all groups were asked to rate the most severe and average pain intensity they had experienced in the week prior to care, and to rate their disability level using the Neck Disability Index (NDI). Two weeks after the baseline visit, all of the patients were mailed a questionnaire, designed to assess whether they had experienced any discomfort or unpleasant reactions from chiropractic care in the past two weeks. For each symptom, patients were asked to rate their level of discomfort on a scale of 0-10; how long after treatment that the discomfort began; how long the discomfort lasted; and how much it affected their normal activities. A total of 280 patients responded to the questionnaire.

Eighty-five patients (30.4% of the total study population) reported experiencing at least one adverse symptom in the two weeks following care. The most common reported symptoms were neck pain and headaches, which were experienced by 25.0% and 15.7% of patients, respectively. Receiving heat therapy or EMS prior to chiropractic care was "weakly associated" with adverse symptoms, but not enough to be considered statistically significant.

More than 80% of the symptoms occurred in the first 24 hours after being mobilized or manipulated; 61.3% of the adverse reactions resolved within 24 hours. Females were slightly more likely to report an adverse reaction than males, as were patients ages 30-39 compared to other age groups.

Patients subjected to manipulation were 44% more likely to report any type of adverse symptom in the two weeks immediately following treatment compared to those subjected to mobilization. In particular, patients randomized to receive neck manipulation were 94% more likely to report one or more "neurologic symptoms," such as dizziness or imbalance, nausea/vomiting, blurred or impaired vision, ringing in the ears, weakness of the arms or legs, confusion or disorientation, and depression or anxiety, occurring within 24 hours of treatment and with a severity level of two or greater. Many of those symptoms were considered compatible with what the researchers termed "vertebrobasilar artery compromise."

Neck disability also appeared to be associated with an increased risk of neurologic symptoms. Patients with NDI scores indicative of moderate or severe neck disability at baseline were 3.15 times more likely to report suffering a "potentially more serious" neurologic symptom. Patients with NDI scores of 16 or greater at baseline were 5.70 times more likely to document a neurologic symptom compared to patients with NDI scores of 15 or less.

The scientists were quick to point out that many of the side-effects described in the study are not unique to chiropractic care, and that symptoms such as dizziness, nausea and headaches also often occur in people taking drugs or prescription medications. They also cited previously published research showing that the complication rates from medications and surgical procedures for neck pain "are estimated to be much higher" than those from manipulation of the spine and other chiropractic modalities.

The authors' conclusion was brief and succinct with regard to the incidence of adverse side-effects resulting from chiropractic care, and to their preferred choice of treatment:

"Adverse reactions to chiropractic care for neck pain are common and appear more likely to follow cervical spine manipulation than mobilization. ... [C]hiropractic patients and doctors should be aware that the risk of adverse reactions might be higher among patients exposed to manipulation than other chiropractic treatments. Given the lack of demonstrated benefit of manipulation over mobilization for neck pain, and evidence that mobilization is more effective than conventional medical care and physical therapy, mobilization rather than manipulation may be the more appropriate first-line therapy."

The results of the UCLA Neck Pain Study raise several questions worthy of deliberation:

- Given that only 280 of the 336 people studied responded to the survey, were the results a fluke, or are they a valid representation of what chiropractors may encounter in practice?
- What type of chiropractic patient fits the "profile" for being at risk of an adverse reaction resulting from manipulation?
- What diagnostic tools could chiropractors use to screen out patients who are potentially at risk of suffering an adverse reaction?
- How should patients who report to a chiropractor with moderate or severe neck pain be treated, compared to those who present with little or no neck pain?
- If neck manipulation is more likely to cause an adverse reaction in a certain type of patient, should it be modified or discontinued in such patients in favor of mobilization?

The chiropractic profession should consider the results of this study as a potential launching point from which they can conduct larger trials to determine the efficacy of these findings, and to

determine which patients could be at a greater risk for potential adverse reactions.

References

1. Coulter ID, Hurwitz EL, Adams AH, et al. Patients using chiropractors in North America: who are they, and why are they in chiropractic care? *Spine* 2002;27:291-8.
 2. Hurwitz EL, Coulter ID, Adams AH, et al. Use of chiropractic services from 1985 through 1991 in the United States and Canada. *American Journal of Public Health* 1998;88:771-6.
 3. Hurwitz EL, Morgenstern H, Vassilaki M, Chaing LM. Frequency and clinical predictors of adverse reactions to chiropractic care in the UCLA Neck Pain Study. *Spine* 2005;30(13):1477-1484.
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