INSIGHTS INTO CHIROPRACTIC

Discerning the true nature of an alternative health care method

Neck Pain & Manipulation: Results of Prospective Randomized Controlled Trials

INTRODUCTION

The costs associated with neck pain are a perplexing subset of the total annual cost for treatment of joint or back problems in the American public(1,2). Researchers have extensively studied the possible causes and tissue origins of neck pain(2-12); most often, neck pain is attributed to disc disease or soft-tissue injury(2). Approximately 20% of the American public sought treatment for problems of the joints or back in 1980. The costs for this treatment represented 8% of national health care spending, or the equivalent of $60 billion if extrapolated to current spending(1).

Much of the focus of the treatment for neck pain has centered around providing palliative relief of symptoms, through the use of medications, and maintenance of range of motion through exercise. Unfortunately, this has led to little improvement in the outcome of the treatment of neck pain over the past thirty-five years and has led to the characterization of neck pain treatment as "empirical at best"(7).

MANIPULATION & NECK PAIN

Approximately one third of patients presenting to the office of a doctor of chiropractic do so for complaints of the head and neck(13). This makes neck pain one of the most commonly treated conditions in the chiropractic physician's office. The most common method of treatment used by chiropractic physicians is manual manipulation of spine.

Although many common treatments used in the health care sciences do not have even one prospective randomized clinical trial to scientifically support their use(14), at least four prospective randomized clinical trials exist which seem to indicate that spinal manipulation is an effective treatment for neck pain.

In 1982 Sloop et al.(15) published the findings of their randomized controlled trial of twenty-one patients receiving a single neck manipulation as treatment for the diagnoses of cervical spondylosis or non-specific neck pain. The patients receiving manipulation were compared to a control group of eighteen patients with the same diagnoses. The authors state, "The simplest test of outcome was to ask the patient, 'did the treatment help you?' At three weeks, 12 of 21 (57%) patients receiving manipulation responded affirmatively, compared with five of 18 (28%) controls."

In 1983, a randomized controlled trial of cervical spine manipulation for fifty-two patients was published in the Journal of the Royal College of General Practitioners. Subjects were assessed over a three week period to determine the effect of cervical spine manipulation on self-reported pain and range of motion. The authors found that, "Manipulation produced a significant immediate improvement in symptoms in those with pain or stiffness in the neck, and pain/paraesthesia in the shoulder, and a nearly significant improvement in those with pain/paraesthesia

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in the arm/hand. Manipulation also produced a significant increase in measured rotation that was maintained for three weeks and an immediate improvement in lateral flexion that was not maintained(16)."

Koes et al.(17) performed a randomized clinical trial of 256 patients with nonspecific back and neck complaints lasting for at least six weeks duration. Patients were randomly assigned to either manual therapy, physiotherapy, or continued treatment with their general practitioner. Outcome measures consisted of severity of the chief complaint, global perceived effect, and functional status. Based on their results, Koes et al. state, "Both physiotherapy and manual therapy decreased the severity of complaints more and had a higher global perceived effect compared to continued treatment by the general practitioner(17)."

Finally, Cassidy et al.(18) performed a prospective randomized trial on one hundred consecutive patients with unilateral neck pain. Fifty-two received one high-velocity, low-amplitude rotational manipulation while the remaining forty-eight received a passive muscle energy technique applied to the neck. Both treatments increased range of motion, however, the manipulation had a significantly greater effect on reducing pain intensity. "Eighty-five percent of the manipulated patients reported pain improvement immediately after treatment. However, the decrease in pain intensity was more than 1.5 times greater in the manipulated group(18)."

SAFETY ISSUES

It is widely thought that cervical spine manipulation is a dangerous treatment modality. Nothing could be further from the truth. An article authored in 1996 by Dabbs and Lauretti(19) compared the risks of serious complications or death for patients receiving a course of manipulative treatment or nonsteroidal anti-inflammatory drugs for the treatment of neck pain. As a result of their review of the scientific literature on the subject the authors stated, " . . . the best available data suggests that the risk of serious neurovascular complication from cervical manipulation is approximately one incident per 100,000 patients receiving a course of treatment per yr, or 0.00025%. The risk of serious gastrointestinal complication requiring hospitalization because of NSAID use for similar conditions (i.e., a diagnosis of osteoarthritis [OA]) is 0.4% per year. The risk of death from hemorrhage or ulcer perforation attributable to NSAID use for OA is 0.04%. Therefore, based on the best available evidence, we calculate the risk of serious complications or death is 100-400 times greater for the use of NSAIDs than for the use of cervical manipulation in the treatment of similar conditions."(19, emphasis added)

In addition an article published in the medical journal Spine compares the risks for cervical spine manipulations, use of NSAIDs, and cervical spine surgery(20). Hurwitz et al.(20) report an average risk of vertebrobasilar accident, major impairment or death as 7.5 per 10,000,000 manipulations. They further report an average incidence rate of serious gastrointestinal event (bleeding, perforation, or other adverse event resulting in hospitalization or death) from the use of NSAIDs as 1 per 1000 subjects. And finally, they report an average incidence rate of neurologic complication or death from cervical spine surgeries as 11.25 per 1000.

Although anyone would agree that even one tragic event is one too many, when placed in the proper context it becomes readily apparent that cervical spine manipulation is an extremely safe procedure.

CONCLUSION

Cervical spine manipulation is a safe and effective treatment for individuals with neck pain. Because chiropractic manipulation has been shown to be clinically effective and safe, with high levels of patient satisfaction, it seems logical that a clinical trial of chiropractic treatment should perhaps be the standard of care for patients with conditions known to be responsive to such interventions.

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