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Effectiveness of Chiropractic Management in Chronic CAD Cases

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My colleagues in Bristol (UK), Martin Gargan, MD, and Gordon Bannister, MD, in concert with another orthopaedic surgeon and a chiropractic physician named Jonathan Cook, have recently reported their success in the management of chronic whiplash (i.e., cervical acceleration/deceleration or CAD) injuries. This editorial is a short commentary on their paper (A symptomatic classification of whiplash injury and the implications for treatment. *J Orthopaedic Medicine* 1999;21(1):22-25).

You might recall my previous discussion of an important paper published by this group three years ago (Woodward MM, Cook JCH, Gargan MF, Bannister GC. Chiropractic treatment of chronic whiplash injuries. *Injury* 1996;27:643-645). In that study, a series of patients who had been through a variety of traditional treatment regimes (medication, physical therapy, rest, four with chiropractic care) without success underwent a trial of chiropractic care by Dr. Cook. Dr. Woodward, an orthopaedic surgeon, conducted the before and after examinations.

Although it was a relatively small study, the results were very encouraging: 93% success, with 26 of 28 patients getting a benefit from treatment. While the results of this study cannot be extrapolated directly to the acute CAD case, it would seem that these chronic cases would typically be more challenging than acute cases. Both of these papers should be in the library of every DC who treats CAD patients and struggles with the daily clinical vicissitudes arising from file reviewers, IME doctors and insurance adjustors.

The most recent paper seeks to identify which chronic CAD patients will benefit most from chiropractic management. Using a structured telephone interview of 93 consecutive patients (68 female) referred for chiropractic care, the authors recognized three groups of patients. The mean time from injury to referral was 12.7 months. Group One consisted of patients with isolated neck pain and limited range of motion. Group Two had neurological signs or symptoms and associated range of motion restrictions. Group Three patients

had "severe" neck pain and a normal range of motion, and frequently complained of "an unusual group of symptoms, with a bizarre, non-dermatomal pain distribution."

The main outcome measure was the Gargan and Bannister grading system in which grade A was an absence of symptoms; grade B symptoms were described as a "nuisance"; grade C symptoms were "intrusive"; and grade D symptoms were classified as "disabling." To some degree, those of us in the research community groan at the prospect of new grading systems and the vagarities and capriciousness of the English language. However, Gargan and Bannister have been at this CAD work for a long time and have in fact provided much of the foundational work upon which the grading system later developed by me (Croft AC: Treatment paradigm for cervical acceleration/deceleration injuries (whiplash). *ACA J Chiro* 1993;30(1):41-45; Croft AC: Proposed classification of cervical acceleration/deceleration (CAD) injuries with a review of the prognostic research. *Palmer J Research* 1994;1(1):10-21) was based.

Some time later (1995), the Quebec Task Force published the same grading system, claiming it as one of their most important accomplishments. My work was not cited in that publication. Needless to say, the so-called WAD (whiplash-associated disorders) grading system (a.k.a. Quebec Grading System) is now de rigueur in the scientific community. A personal groan. For those familiar with these grading systems, the groupings used by the present authors may be a bit confusing, since their group one patients would be classified as grade two; their group two patients would best fit into a grade three; and their group three patients do not fit any of the CAD grades well, at least to the extent that they were described in the paper.

One might also ask what is meant by the terms "nuisance," "intrusive" and "disabling"? They probably correspond to the more common terms used here in the U.S.: "slight," "moderate," and "severe." Perhaps "minimal" is thrown in with group A. At least that was the impression I got when they first published this grading system several years back. Now, however, group A patients appear to be asymptomatic. Thus, these categories remain marginally defined.

Still, since the patients were always classified using the authors' operative definitions, changes from one group rating to another could be used to measure the effectiveness of chiropractic care. Also, it would only be fair to point out that within the CAD literature, it is a nearly universal practice to leave the term "disabled" entirely undefined. This has always made meaningful comparison of one study to the next highly problematic. Clearly, the term "disability" covers a very broad range of physical complaints and degrees of impairment. A quantifiable impairment level would be preferable, if such a thing existed. The AMA

guidelines attempt this rather unconvincingly.

All patients were treated with standard high velocity, low amplitude thrust techniques and had a mean of 19.3 treatments over a mean period of 4.1 months. In Group One (n=50), 36 patients (72%) gained some benefit from spinal manipulation. Twelve (24%) became asymptomatic and 12 (24%) improved by two group ratings (e.g., going from a group D to a group B rating).

In Group Two (n=32), 30 patients (94%) responded well to treatment, with 12 (38%) becoming asymptomatic and 13 (43%) improving by two group ratings. Only three of the 11 patients in Group Three (27%) improved following treatment, one patient considering that his symptoms became worse. Overall, 74% of the 93 patients in this study showed improvement.

The authors concluded, "Whiplash injuries are common. Chiropractic is the only proven effective treatment in chronic cases." Those patients in Group Three were identified as a special group of non-responders. They had "severe" neck pain (again, it should be pointed out that in contrast to the American descriptions/classifications of pain, where "severe" pain is synonymous with totally disabling pain and is the highest rating of pain, the British often describe higher levels: above the rating of "severe" disability in the Revised Oswestry, for example, we have "crippled"). These patients also had non-dermatomal pain distributions, blackouts, visual disturbances, nausea, vomiting and chest pain.

The defining characteristics of this group were full range of motion in the neck, bizarre symptoms, female gender and ongoing litigation. It should be pointed out, however, that there were no statistically significant differences between groups as to litigation. As the authors acknowledged, more severely injured patients are more likely to be involved in litigation than those injured less severely.

It is also worth noting that non-dermatomal patterns are fairly common in persons suffering from CAD trauma. This scleratogenous (a.k.a. referred) type of pain has been know for years, most recently nicely explored by Bogduk in the 1990s. Injured spines are not universally hypomobile. In cases of ligamentous injury, the opposite may be the case. Thus, full range of motion does not necessarily constitute an improbable finding in the presence of neck pain.

Moreover, visual disturbances and balance disorders (which might be associated with nausea and vomiting) are also fairly common following CAD trauma (although not usually presenting with nausea and vomiting). Thus, one wonders whether this group’s collective symptoms were really so "bizarre" after all, or whether

there were some who were malingering or suffering from psychological problems. In any event, they did get 27% improvement which, depending on the weighing of the cost of care and the risk of treatment (one patient's condition was worsened by this treatment) against the potential benefit to the patient, his/her family and employer, might very well justify chiropractic care even in this group of non-responders. It would be particularly cost effective if it obviated the need for surgical intervention.

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