Response to Albuquerque Cervical Arterial Dissection Study  
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A recent publication in the *Journal of Neurosurgery* adds to the debate over the advisability of performing cervical manipulations, in that the procedure is reported to have led to the appearance and description of 13 cases of craniovertebral artery dissections. All presented with neurological deficits and/or head or neck pain; all but 3 did so within 2 days of their reported experience with chiropractic cervical manipulation. Computed tomography angiograms confirmed arterial dissections in two cases described in detail; it was not stated as to how arterial dissections were identified in the remaining 11 patients.

Aggressive treatment of the patients was undertaken by the authors, 6 patients being medicated with anticoagulants or anti-platelet therapy, 5 administered stents, and 1 requiring thrombolysis of the basilar artery. At the end of an average of 19 months of follow-up, 3 patients had continuing neurological deficits, 1 had died of a cerebellar stroke, and 9 recovered completely. During the course of treatment, 3 patients underwent emergency cerebellar decompression surgery to relieve herniations.1

While the data may give pause as to the advisability of performing cervical manipulations upon initial examination, numerous assumptions, omissions, and one glaring revelation significantly undermine the authors’ suggestion that cervical chiropractic manipulations are inherently a dangerous procedure which should be curtailed:

1. **Sample frame**: The authors fail to provide data as to the total number of patients undergoing cervical manipulation that their 13 cases represented. Since patient intake was reported to have begun as far back as 2007, that total number may be considerable. The frequency of the dissections reported, therefore, remains unknown.

2. **Lack of medical history details**: Other than reporting that all patients had recently been to a chiropractor and presented with numerous symptoms suggesting cervical problems, the authors provide no information whatsoever as to what medical history the patients provided prior to their chiropractic treatment. In light of the facts that (1) spontaneous vertebral arterial dissections have been reported at frequencies an order of magnitude or greater than those attributed to manipulation,2,3 and that (2) a broad cross-section of lifestyle activities may bring on arterial dissections,4,5 this omission represents a significant weakness in the study.

3. **Inaccuracy of reporting of provocative testing**: Despite the authors’ insistence that provocative testing “is widely reported in the chiropractic literature,” their assessment is outdated in that provocative testing has more recently fallen out of favor and is no longer being offered in the chiropractic curriculum.

4. **Complications in the authors’ own interventions**: Of the 5 patients undergoing stent placement, 1 was reported to have had in-stent thrombosis 1 day after stent placement, requiring emergency angioplasty and thrombolysis to restore arterial patency. Worse, 2 out of the 3 patients undergoing emergency craniotomy for cerebellar decompression had been given stents just hours before the surgical procedure. The complication rates for these medical interventions far outweigh by at least 3 orders of magnitude any significant complication frequencies that have been attributed to cervical manipulation.6–8

5. **Ambiguity of identification of previous healthcare provider**: While the authors state that their patients had undergone “chiropractic cervical manipulation” previous to their presentation for the study, the specific professional disciplines of the previous healthcare providers were not specified.
This point needs clarification, because there is ample documentation from previous studies indicating that spinal manipulation causing complications was administered by a non-chiropractor, despite the fact that such studies misleadingly employed the term “chiropractic.”

To conclude, the current study offers little in the way of documenting the frequency with which the substantial cervical complications may be attributed to cervical manipulation as administered by qualified, professionally trained chiropractors. Furthermore, the entire question as to the patients’ preexisting conditions which might have brought on or at least exacerbated the adverse events has been ignored. It is ironic that the surgical interventions described, while deemed to be more aggressive than in previous reports, produces significant complications at a far greater frequency than could ever be attributed to chiropractic spinal manipulation. Thus, this particular study would not appear to have added significantly to the case against chiropractic cervical manipulation; rather, the shoe appears to be on the other foot as far as the medical interventions described in this report are concerned.

REFERENCES: