Providers of health care depend on research published in reputable scientific Journals. World wide thousands of such Journals exist, some excellent, others less so. When a therapy is found to be effective, practitioners may decide to use it. When a therapy is found to have dangerous side effects, practitioners limit its use or abandon it. This happens every day.

Philosophies and belief systems about specific health care therapies remain apart from evidence and science. They must ignore the known anatomical and physiological basic functioning of the human body and research and evidence. Chiropractic believes that the functioning of the nervous system of the human body is determined by what takes place in the spaces between the vertebral bones. It believes that the most important “subluxation” is in the highest neck area. This is why that area is manipulated in almost every patient, starting right with newborn babies. This is why it is done at almost every visit no matter what the complaint. It is not a treatment, it is a philosophy.

Occipital highest neck manipulation is the most essential part of chiropractic philosophy going back to 1930 when B.J. Palmer announced his “hole in one” theory. Manipulate the occipital area (the hole where the brain becomes the spinal cord) and disease will be prevented and treated. While physicians abandon or limit therapies when dangerous side effects become known, this has never happened with chiropractic highest neck manipulation. It cannot happen from within chiropractic because it has become the signature most fundamental belief and philosophy of chiropractic.

This is why chiropractic can never accept any restrictions whatsoever on the practice of occipital highest neck manipulation. This is why all the evidence must be ignored. Of all the terrible and unnecessary tragedies due to so called “alternative medicine” none is more prevalent and devastating that that of stroke and death due to chiropractic highest neck manipulation. Upper cervical subluxations theory is taught in every school of chiropractic, endorsed by every Regulatory body and protected by non-scientific studies sometimes done by quasi respected individuals.

It has to be stopped.
Published reports in the scientific literature allow us to stand on the very tip of the one-percent of the full iceberg. Since the last update just three months ago, seventy one new cases of stroke and death due to chiropractic highest neck manipulation have been reported. Thus, we remain largely unaware of the reality below. Most scientists never take the time and effort required to report what they have found. Medical Journals refuse the great majority of submissions. Thus the overall picture of the true incidence and seriousness of an issue is simply reflected by the medical database resource.

Yet the scientific literature does provide some insights. How many well respected scientific journals have addressed the issue? How consistent year in and year out have reports been made? How many different countries have reported on the issue? What is the degree of specialization of those scientists publishing these studies? What is the range of problems reported?

Critiques are made with the demand that “studies” be double blinded or truly retrospective or fully case controlled in order to be reliable. In this issue the direct link between highest neck manipulations is clear and starts with the basic anatomy of the vertebral arteries and the carotid arteries as they pass in the area of the highest neck. Add to this is the direct clinical experiences of clinical neurologists who diagnose these cases and confirm their opinion with sophisticated radiology examination.

One new report in particular, done by a chiropractor turned neurologist, makes the cause and effect perfectly clear. Published in Spine Volume (27)1) January 2002 pp. 49-55 by Haldeman, this was a review of 64 previously unpublished cases. They were based on legal files. The onset of symptoms was within 2 days of the manipulation in 94% of the cases, and within 30 minutes in 75% of the cases. This time sequence of cause and effect is clear. Yet, in another paper this same author, true to his chiropractic training and despite his subsequent training as a neurologist, supports the notion that seeing a chiropractor is no more a risk for arterial dissection than seeing a medical doctor.
If highest neck manipulation were a prescribed medication it would have been banned years ago as being of too little benefit, most neck pain is not in the highest neck area and being far too dangerous. However, highest neck manipulation is the most fundamental chiropractic philosophical belief, starting with newborn babies and being done time and time again on almost every visit. The diagnosis is “subluxations” which do not in fact exist.

In regard to the issue of highest neck manipulation, occipital to cervical one (atlas vertebrae) and cervical one to cervical two (axis vertebrae) studies have been reported in numerous scientific journals including, The Journal of Forensic Science, The Journal of Clinical Pathology, The Journal of the American Medical Association, the Journal of the Canadian Medical Association, the British Medical Journal, the journals “Neurology; “Stroke”, “Lancet”, “Pediatrics”, The new England Journal of Medicine, The American Journal of Emergency Medicine, etc. etc.

The range of interest of these Journals include neurology, neuroradiology, pathology, forensic sciences, legal publications, family medicine, rehabilitation medicine, ophthalmology, audiology etc. etc. Numerous prestigious hospitals and Universities across the world have reported cases including the Mayo Clinic, Johns Hopkins Hospital, the Claude Bernard Hospital, the Veterans Administration Medical center in California, etc. etc.

The issue has been reported from Canada, the United States, Denmark, Germany, Italy, Australia, Japan, England, Canada, China, South Africa, Ireland, New Zealand, Switzerland, etc. etc. indeed worldwide.

The issue has also been reported on since the very inception of modern medical index medicus over 70 years ago. The quality of the reports, moving from observations and commentaries to retrospective analysis, statistical studies and to prospective studies has been consistent.

The medical consequences of neck manipulation run the range from simple spells of nausea to the Locked-In Syndrome to death. It happens in all ages, from babies to people in their 80’s. It most commonly happens in young adults in the prime of their lives.

**The wide range of neurological and pathological findings in the countless cases reported can make a pathologist shudder. The posterior circulation supplies the very “stem” of our neurological system and any tampering with it must be done as an absolute last resort.**

The neuropathological findings run the range of little or no findings to those showing clear adventitial dissection and indeed rupture of the entire artery. As stated by neurologist Wouter I. Schievink M.D. “Intimal tears are notoriously difficult to identify at the time of microscopic examination of postmortem or surgical specimens”. (NEJM Vol. 344. No. 12).
OVER SEVENTY YEARS OF LITERATURE REPORTS OF STROKE AND DEATH

400 B.C. Hippocrates Neck manipulation may make “much mischief.” Problems due to neck manipulation have been known for over 2000 years.

1867 Paget, James. “Bone-setter”“Cases that Bone-setters cure” Problems reported by bonesetters over 125 years ago. “Chaos of this kind is of frequent occurrence.”

1927: DeKleyn & Nierwenhuys Cadaver studies. Vertebral artery compromised on the contra-lateral side when the head is rotated.


1952 Kunkle EC, Muller JC. Ann Int Med 1952; 36:1329-35 WALLANBERG SYNDROME.


1956 Schwarz GA, Geiger JK, Arch Intern Med 1956; 97: 3 524. WALLENBERG SYNDROME


Female patient age 31. Vertebrobasilar injuries following cervical manipulation. WALLANBERG SYNDROME.

Female patient age 32. Vertebrobasilar injuries following cervical manipulation. WALLANBERG SYNDROME.

Male patient age 21. Vertebrobasilar injuries following cervical manipulation. WALLANBERG SYNDROME.


1981 Frachon M. Les accidents neurologiques des manipulations cervicales. Thesis (Doctor of Medicine) - Faculty of Medicine, Claude-Bernard University, Lyon. 1981 (11 June). Practitioner unknown. Female patient age 33. Left vertebral artery damage. WALLENBERG SYNDROME.


1984 Nielsen AA. Ugeskr Lager 1984 (22 Oct); 3267-70. Chiropractor. Male patient age 34. Dissecting aneurysm of the vertebral artery. Cerebrovaskulaere insulin forarsaget af manipulation af columna cervicalis. DEATH ABOUT 3 HOURS AFTER NECK MANIPULATION.


1987 (M.P.) Sherman MR, Smialek JE, Zane WE. Archives of Pathology and Laboratory Medicine. 111:851-853(9)1987 Practitioner: Chiropractor 37 male Pathogenesis of vertebral artery Occlusion following cervical spine manipulation. DEATH 52 hours after neck manipulation. NOTE: Patient was a regular chiropractic visitor. He had asymmetrical vertebral arteries. He had old and recent dissections C-1-2. He had no knowledge that he already had old dissections in his arteries.


1987 Bell versus Griffiths. Hunter J (J.Guid- ent). Supreme Court, Common Law Division, SydneN, 14 Sep 1994 Osteopath Male age 32 BLIND. LOCKED IN SYNDROME.


1987 Chen TW, Chen ST Chung Hua I Hsueh Tsa Chih (Chinese Medical journal) 198-1; 40 (6) 557-(i2. Muscle therapist. Male age 28 Brainstem stroke induced by chiropractic neck manipulation - a case report. RECOVERED?

1987 Dunne DW, Conacher GN, Khangure M. Journal of Neurology, Neurosurgery and Psychiatry. 50:349-353. 1987 Naturopath Male age 43 Bilateral dissection of the extra-cranial vertebral arteries. Brainstem infarction DEATH 3 days after. There was “a possible old small” dissection of the extra-cranial artery. Another example where existing dissections are not known to the patient.

1987 FAMILY STATEMENT ONTARIO CANADA Practitioner: Chiropractor Patient: female age 30-34 Bilateral carotid artery dissection. DEATH after several months in coma.


1996 Klougart N, Leboeuf-Yde C, Rasmussen LR. J. Manip Physiol Ther 1996 (Nov-Dec); 19 (9): 563-9. SUMMARY: “Among the respondents the reported incidence of CVI between 1981 and 1988 was about
one for every 120,000 cervical manipulation treatments. “Spinal manipulation to the upper neck was about four times more commonly associated with cerebral vascular insufficiency than treatment to the lower neck. Treatment to the upper neck and the rate of cerebrovascular incidents.


1996? Sparks, Sandy California Practitioner: Chiropractor. Patient: female under 40 years. QUADRAPLEGIC


1996 Lee KP. Carlini WG. Stanford Stroke Center Neurological Complications following chiropractic manipulation: a survey of California neurologists. (May not all be due to chiropractors). Two-year retrospective questionnaire. One hundred and seventy seven neurologist responded reporting 55 strokes. Ages 21-60. Almost all in the posterior circulation. May be duplications is the same patient saw different neurologists.


1997 Terrett AGJ. The Australian Chiropractor 1997 (Dec); 16-17. Practitioner: Physician. Vertebral and basilar artery thrombosis. A case of DEATH following vertebrobasilar stroke (VBS) attributed to spinal manipulation therapy. DEATH


1998 Neff Scott. D.C. Expert examiner. www.infojustice.com Unwarranted Cervical Manipulation and DEATH. General article. His review of cases he has been involved with as a forensic examiner.


2000 CANADA Norris JW Beletsky V. REVIEW OF 21 CASES. All cases are chiropractic. Specific breakdown of age and sex not available. A) Vertebral artery dissections B) Carotid artery dissections. A) GENERALLY CAUSED ATAXIAS AND QUADRIPE SIS. B) GENERALLY CAUSE HEMIPARESIS. APHASIA.


2000 Whitworth ML. Case report www.whiplash101.com Vertebral artery transection. LOSS OF SPEECH.

2001 Rothwell DM, Bondy SJ, and Williams I. Stroke 2001 (5) 1054-1060 CANADA Case control studies of chiropractic manipulation and stroke. Patients under the age of 45 with vertebro-basilar infarcts are five times more likely than controls to have visited a chiropractor within 1 week of the event.


2001 J R Society Med. 2001 Jun;94(6):314-5. Neurological complications of cervical spine manipulation. letter. 35 cases. These included 7 cases of stroke in brainstem territory (4 with confirmation of vertebral artery dissection), 2 cases of stroke in carotid territory. Sub-dural hematoma “Concern about neurological complications following Cervical spine manipulation appears to be justified. A large long-term Prospective study is required to determine the scale of the hazard”.


2002: Spine. Vol. 27 (1) January 2002 pp. 49-55. Haldeman, Scott MD, PhD, FRCP(C),*†; Kohlbeck, Frank J. DC,†‡; McGregor, Marion DC, FCCS(C), MSc§. A retrospective review of 64 medicolegal records describing cerebrovascular ischemia after cervical spine manipulation was conducted.


Vertebral artery dissection (VAD) has been observed in association with chiropractic treatment of the neck. However, most publications describe only single case reports or a small number of cases. We analyzed data from neurological departments at university hospitals in Germany over a three year period, focusing on subjects with vertebral artery dissections associated with chiropractic neck manipulation. We conducted a country-wide survey at neurological departments of all medical schools to identify patients with VAD after chiropractic treatment followed by a standardized questionnaire for each patient. 36 patients (mean age 40 ± 11 years) with VAD were identified in 13 neurological departments. Clinical symptoms consistent with VAD started within 12 hours after neck manipulation. Diagnosis of VAD was established in most cases using digital subtraction angiography (DSA), magnetic resonance angiography (MRA) or duplex sonography. 90% of patients admitted to hospital showed focal neurological deficits and among these, 11% had a reduced level of consciousness. 50% of subjects were discharged after 20 +/- 14 hospital days with focal neurological deficits; 1 patient died and 1 was in a persistent vegetative state. Risk factors associated with artery dissections (e.g., fibromuscular dysplasia) were present in only 25% of subjects. In summary, we describe the clinical pattern of 36 patients with vertebral artery dissections and prior chiropractic neck manipulation.

2006: Vertebral artery dissection and cerebellar infarction following chiropractic manipulation .
© 2006 BMJ Publishing Group Ltd, and British Association for Accident and Emergency Medicine
W-L Chen¹, C-H Chern², Y-L Wu³, C-H Lee⁴

Department of Emergency Medicine, Cathay General Hospital, 280 Jen-Ai Road, Section 4, Taipei 106, Taiwan, Republic of China; weilung.chen@msa.hinet.net

**ABSTRACT**

Vertebral artery dissection (VAD) associated with chiropractic cervical manipulation is a rare but potentially disabling condition. In this report, we present a young patient manifesting with repeated vertigo. Owing to the initial misdiagnosis, the patient later developed cerebellar stroke with inability to stand or walk. Vertigo and disequilibrium are the usual presenting symptoms of this condition, which can result from inner ear or vestibular nerve dysfunction, vertebrobasilar insufficiency, and even lethal cerebellar infarction or haemorrhage; these last two, although rarely seen in young adults, can be caused by traumatic or spontaneous arterial injury, including injury secondary to chiropractic cervical manipulation. A number of cases of VAD associated with chiropractic cervical manipulation have been reported, but rarely in the emergency medicine literature. We present a case of this rare occurrence, and discuss the diagnostic pitfalls.


Seventh cervical rib associated with subclavian artery occlusion and multiple
A cervical rib, or supernumerary (extra) rib arising from the 7th cervical vertebra, is a congenital abnormality that occurs in less than 1% of the population. Clinically, it can cause obscure nervous or vascular symptoms and be difficult to diagnose. In this rare case, a 37-year-old woman developed a subclavian artery occlusion after undergoing a chiropractic manipulation for neck, shoulder, and arm pain. The occlusion led to multiple cerebellar infarcts, frontal subarachnoid hemorrhage, myocardial infarction, and right-hand vascular compromise. The patient was subsequently diagnosed with a 7th cervical rib, which likely caused compression of the subclavian artery after a hyperextension injury sustained during the chiropractic procedure.


[Bilateral vertebral artery dissection during chiropractic treatment]

Kuitwaard K, Flach HZ, van Kooten F.

Erasmus MC-Centrum, afd. Neurologie, Rotterdam. k.kuitwaard@erasusmc.nl

A previously healthy 42-year-old man was brought to the emergency department after he became unwell during chiropractic treatment. During cervical manipulation he had experienced nausea, dizziness, and loss of vision. He arrived at the clinic initially totally blind and with dysarthria. Imaging showed a bilateral vertebral artery dissection, and an MRI scan carried out the next day showed extensive ischaemia in the vertebrobasilar territory. Complications from chiropractic treatment are rare but can be severe or, in some cases, even fatal, especially if treatment involves the cervical area. There is no controlled evidence showing that chiropractic treatment is beneficial and therefore we would not recommend it. Before treatment is commenced, patients should be informed of the risks of cervical chiropractic manipulation.

Publication Types:
   English Abstract