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Letter to the Editor

Letter to the Editor: A Case of Posterior Inferior Cerebellar Artery Infarction after Cervical Chiropractic Manipulation (*Korean J Neurotrauma* 2018;14:159–163)

Stephen Marc Perle[1], HanSuk Jung[2], JooHyun Ham[2], and HwanTak Choi[2]

[1]University of Bridgeport School of Chiropractic, Bridgeport, CT, USA
[2]Hanseo University, Seosan, Korea

▸ See the reply "Authors' Reply to Letter to the Editor: A Case of Posterior Inferior Cerebellar Artery Infarction after Cervical Chiropractic Manipulation (*Korean J Neurotrauma* 2018;14:159–163)" in volume 15 on page 74.

▸ See the article "A Case of Posterior Inferior Cerebellar Artery Infarction after Cervical Chiropractic Manipulation" in volume 14 on page 159.

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Address for correspondence:
Stephen Marc Perle
University of Bridgeport School of Chiropractic, 225 Myrtle Avenue, Bridgeport, CT 06604, USA.
E-mail: perle@bridgeport.eduor

Conflict of Interest
The authors have no financial conflicts of interest.

We read with interest the case report by Jeong and Hwang.[1] Case reports, while having value, are, as we are all aware, very low-level evidence. Causation can never be inferred from a case report. Given this well-known fact we were surprised that the authors predominately used case reports/case series as their supportive evidence in their discussion where they say that chiropractic manipulation "can injure the neck vessels."[1]

Given the rarity of vertebral artery dissection 1.52 per 100,000,[2] the highest level of evidence one can reasonably use to determine causation is a case-control study. Jeong and Hwang do cite Rothwell et al.[3] However, Cassidy et al.[4] have revised Rothwell controlling for protopathic bias. They found that the likelihood of a vertebral artery dissection after seeing a chiropractor was statistically identical to the likelihood after seeing a medical physician. Given the fact that medical physicians do not generally perform spinal manipulation the causal arrow rather than pointing to spinal manipulation points to dissections causing neck pain and/or headaches thus seeking care and the progress of the dissection is unrelated to the care, i.e. protopathic bias.[5]

Generally, the highest level of evidence in used today would be systematic reviews and the most recent by Church et al.[6] concludes: "There is no convincing evidence to support a causal link, and unfounded belief in causation may have dire consequences." Thus, Jeong and Hwang's conclusion "Injured patients who have undergone cervical chiropractic manipulation should be assessed for a vertebral artery injury, which may minimize the poor prognosis of cerebellar infarction" may be harmful in leading to advanced imaging when inappropriate.

Finally, given the fact that there is no yet registration in South Korea for chiropractors one cannot be certain that an individual self-designating as a chiropractor is actually trained to

internationally recognized standards.[7] We know that often spinal manipulation is labeled as being performed by chiropractors, when in fact the person performing the manipulation was anything but a qualified chiropractor.[8] Thus, one does not know if the treatment rendered was actually one performed by chiropractors.

Not using the current best evidence nor confirming that the individual involved was a qualified chiropractor vastly diminishes the value of this case report. Unfortunately, these kinds of errors are common.[9]

REFERENCES

1. Jeong DK, Hwang SK. A case of posterior inferior cerebellar artery infarction after cervical chiropractic manipulation. **Korean J Neurotrauma 14**:159-163, 2018
PUBMED | CROSSREF
2. Lee VH, Brown RD Jr, Mandrekar JN, Mokri B. Incidence and outcome of cervical artery dissection: a population-based study. **Neurology 67**:1809-1812, 2006
PUBMED | CROSSREF
3. Rothwell DM, Bondy SJ, Williams JI. Chiropractic manipulation and stroke: a population-based case-control study. **Stroke 32**:1054-1060, 2001
PUBMED | CROSSREF
4. Cassidy JD, Boyle E, Côté P, He Y, Hogg-Johnson S, Silver FL, et al. Risk of vertebrobasilar stroke and chiropractic care: results of a population-based case-control and case-crossover study. **Spine 33**:S176-S183, 2008
PUBMED | CROSSREF
5. Horwitz RI, Feinstein AR. The problem of "protopathic bias" in case-control studies. **Am J Med 68**:255-258, 1980
PUBMED | CROSSREF
6. Church EW, Sieg EP, Zalatimo O, Hussain NS, Glantz M, Harbaugh RE. Systematic review and meta-analysis of chiropractic care and cervical artery dissection: no evidence for causation. **Cureus 8**:e498, 2016.
PUBMED | CROSSREF
7. World Health Organization. WHO guidelines on basic training and safety in chiropractic. Geneva: World Health Organization, 2005.
8. Wenban AB. Inappropriate use of the title 'chiropractor' and term 'chiropractic manipulation' in the peer-reviewed biomedical literature. **Chiropr Osteopat 14**:16, 2006
PUBMED | CROSSREF
9. Wynd S, Westaway M, Vohra S, Kawchuk G. The quality of reports on cervical arterial dissection following cervical spinal manipulation. **PLoS One 8**:e59170, 2013
PUBMED | CROSSREF

https://doi.org/10.13004/kjnt.2019.15.e5