

Letter to the Editor



## 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)

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**Conflict of Interest**

The authors have no financial conflicts of interest.

- ▶ See the letter "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 72.

Thank you for comments.

The patient in this article is relatively healthy young man (39-year-old) with no previous medical history or drug medication. And, 2 weeks before an admission of hospital, he had history of a chiropractor for treatment of intermittent neck pain. He denied any episodes of syncope, head or neck trauma, and use of drugs. Routine laboratory studies on admission including blood tests and electrolytes were within normal limits.

Chiropractic manipulations of the cervical region are techniques that are used frequently to treat osteomuscular lesions, but could give rise to important complications, such as the dissection of the vertebral artery, vertebra-basilar insufficiency and cerebellar or brainstem infarction.

Rothwell et al.<sup>1)</sup> found no association between chiropractic manipulation and stroke in older patients. Chiropractors may manipulate the cervical spines of younger patients like our patient more aggressively, thereby raising the likelihood of arterial injury. Furthermore, if patients have a propensity for cervical vertebral artery dissection, it may manifest at an earlier age. Finally, younger, more active patients are likely to suffer from cervical discomfort and more often seek chiropractic adjustments.

As mentioned in comments, cervical vertebral artery dissection after cervical chiropractic manipulation is a rare event. To determine causation between cervical vertebral artery dissection should be performed through a well randomized case control study or registration study in national base.

## REFERENCES

1. Rothwell DM, Bondy SJ, Williams JI. Chiropractic manipulation and stroke: a population-based case-control study. *Stroke* 32:1054-1060, 2001