

16 August 2021

Editor
Australian Doctor
26-32 Pyrmont Bridge Road
Sydney NSW 2009

Dear Editor,

The ACA notes the reference to the Yap et al (2021) case study published in the Australian Doctor on 10 August 2021.

The ACA would be interested in understanding the policy of your publication with regards to how you choose case reports in general and specifically related to manual therapies such as chiropractic care. Given the examples published over recent years in the Australian Doctor, it would appear that there is either a bias or directive in place, particularly with regards to what gets "bundled" as chiropractic care.

This is even more concerning when there are errors in the case report (please see attached review below) that are then propagated without academic rigour.

The ACA looks forward to your response and consent to this letter (in its entirety) and analysis to be published. Additional, we would consider how the ACA can work with your publication to better understand chiropractic care to minimise further mis-information however we are also confident that your readers are able to see it for what it is.

Re: Issues with the Yap et al (2021) publication and its subsequent reporting in the Australian Doctor on 10 August 2021 (Chiropractic treatment likely cause of man's stroke by Heather Saxena).

1. Inappropriate title.
2. The exact description, qualification, scope of practice of the practitioner is not provided
3. The exact description and mechanism of the injurious action is not provided
4. The massage was attributed to a chiropractor when it was likely "lay/traditional manipulator" such as Tui-na (Chinese massage) practitioner referred to in the paper as:
 1. "Chiropractic massage is a common complementary medicine that is popular in China; however, there are limited registration and licensing regulations" (Yap et al 2021)
5. The chiropractic was then associated with manipulation
6. The adverse events of massage was then reported as "manipulation" and was extrapolated to chiropractic. False attribution of problems with non-chiropractic manipulation being attributed to chiropractors is not new (Terrett 1995)
7. There was poor detail on the temporal relationship of the treatments and the ensuing ischaemic symptoms and thence to the stroke.

Mechanism of injury

This was vaguely implied but definitely not stated.

A likely mechanism of what occurred:

That a spontaneous arterial dissection took place (Campos-Herrera et al 2008).

A secondary mechanism could be that or a massage applied to the front of the neck caused the stroke (Dutta et al 2018). Anterior to posterior pressure was placed on the carotids via massage. This pressure irritated the carotid. The carotid became damaged and the vessel walls likely thickened as a result. The thickening of the wall reduced blood flow to the middle cerebral artery. The lack of blood flow in the middle cerebral artery caused an ischaemic stroke of the region supplied by middle cerebral artery.

The differential diagnosis did not include Eagle's syndrome. A similar mechanism occurs in a diagnosis of Eagle's syndrome secondary to direct pressure on the carotid from an elongated styloid process (Todo et al 2012, Qureshi et al 2019, Soylyu et al 2017. Eagle's syndrome has been reported secondary to massage therapy where the carotid is pressured and damaged between the elongated styloid and the hands of the massage therapist (see below).

Carotid arteries are a subset of the cervical arteries but can describe both the vertebral and carotids arteries. Thus, the language used needs to be very clear in associating cause and association.

The internal carotid is adjacent to the styloid process of the petrous temporal bone of the skull the vertebral artery is located within the cervical vertebra C2-C6 (Abuhaimed et al 2021). In terms of the potential for damage, neck manipulations would be more likely to affect those arteries that are in the vertebrae being manipulated rather than those arteries that are adjacent to the bones being manipulated.

Damage to the vertebral arteries typically cause vertebrobasilar insufficiency (VBI) and is manifest in the cerebellar, and posterior cerebral regions of the brain (mostly) (Savitz & Caplan 2005). This is where most of the severe adverse events with neck manipulation occur albeit rarely (Kosloff et al 2015). The damage in the current case did not occur here.

The carotid system is in the front of the cervical vertebrae. They supply the cerebral arteries and in particular the anterior and middle cerebral arteries. The middle cerebral artery is the site of the damage in this case. It is also the most commonly affected (non-manipulation related) artery in stroke (Nogles & Galuska 2020).

The carotids

Manipulation damage can occur at the carotids (Church et al 2016). It can also be spontaneous (Schievink 2001). It also tends to occur in younger people as in this case (Schievink 2001). Based on the literature, a carotid issue would present with different symptoms (anterior neck pain amongst them) and should be considered significant. Anyone who has been trained in manipulation knows that anterior neck pain is an issue for concern and should be dealt with carefully. It is likely that an incorrect diagnosis was made, although it is possible that there were no symptoms of the carotid problems. Then a potential mechanism for the injury should have been provided in the original case report. The mechanism of injury noted above is key here as nearly all neck manipulations DO NOT apply anterior pressure to the neck at the level of the carotids.

Eagle's syndrome

Eagle's syndrome is an injury to the carotids via direct pressure of an elongated styloid process or calcified stylohyoid ligament (Todo et al 2012, Qureshi et al 2019, Soylu et al 2017). It is common after throat surgery and in particular tonsillectomy. It can be associated with compression of cranial nerves (CN5,7,9,10) or carotid artery compression. It may also be asymptomatic until pressure is placed on it. A case exists where massage therapy caused a stroke via pressure on an elongated styloid process (Howlett et al 2021). However, in the absence of an elongated styloid, heavy direct pressure from a massage therapist in an anterior to posterior direction at the level of the carotids may cause a pinch effect between the therapist hands and the cervical vertebrae functionally causing an Eagle-like syndrome causing irritation to the internal carotid causing thrombus and ultimately stroke. Such a syndrome may be missed by vascular surgeons and I quote (Todo et al 2012).

"Cervical pain caused by the elongation of the styloid process (Eagle syndrome) is well known to otolaryngologists but is rarely considered by vascular surgeons."

A case of vertebral artery damage following neck massage by an untrained practitioner (Indian Hair salon) has also occurred (Dutta et al 2018). The current case affected the carotid artery and was performed by a massage therapist of some kind in China. Regulation of chiropractic and titling is currently absent in both locations. In China there are many lay manipulators including the Tui-na practitioners. These traditional bonesetters use manipulation. Because they do, they are often incorrectly referred to as "chiropractors". It is here where the confusion in the publication originates. The lack of fact checking by the Australian Doctor article is much more blatant.

Tui-na (Chinese massage)

Tuina or Chinese massage is a traditional form of Chinese bonesetting and has been used for conditions such as but not limited to cervical vertigo (Huang et al 2020). It appears to be widely practiced and has been associated with serious neck injury including neck fracture (Poon et al 2020). Tuina practitioners perform various long lever spinal manipulations such as "double doctor pulling manipulation for lumbar disc herniation" (Xue 2017). Manipulations such as these are not taught in any of the chiropractic programs in Australia.

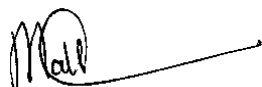
A complete description of the scope and philosophy of Tuina is provided here: <https://www.traditionalbodywork.com/tuina/>

"Tuina Massage (also written Tui Na) is a Chinese therapeutic massage and one of the most commonly used massage modalities in Traditional Chinese Medicine (TCM). It's a manual, hands-on body treatment technique with the goal to promote health and to treat various clinical health conditions. It includes techniques such as pushing (Tui) and grasping (Na) of soft body tissue." "Tuina massage techniques used by TCM practitioners are many, and include brushing, kneading, pushing, pulling, rolling, stretching, pressing, shaking, tapotement (percussion), acupressure, and rubbing."

Extrapolation

Finally, case reports are NOT research. Therefore, extrapolating the findings of one case (massage) to a whole population (massage therapy) is completely inappropriate. Extrapolating to a completely different population (chiropractic) because they sometimes use massage is even worse. They could have easily said the same thing about osteopaths, physiotherapists, exercise therapists and even doctors. Such extrapolation is unforgivable pseudoscience.

Yours sincerely,



Adj Assoc Prof Matthew Fisher
ACA CEO

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