

This item is the archived peer-reviewed author-version of:

Letter to the Editor concerning : Dizziness and neck pain: a correct diagnosis is required before consulting a physiotherapist, by Van Leeuwen and Van der Zaag-Loonen 2016

Reference:

De Hertogh Willem, Castien R., De Pauw Joke, Michiels Sarah.- Letter to the Editor concerning : Dizziness and neck pain: a correct diagnosis is required before consulting a physiotherapist, by Van Leeuwen and Van der Zaag-Loonen 2016
Acta neurologica Belgica / Société belge de neurologie. Groupement belge d'études oto-neuro-ophtalmologiques. Groupement belge de neuropathologie - ISSN 0300-9009 - Heidelberg, Springer heidelberg, 117:2(2017), p. 573-574
Full text (Publisher's DOI): <https://doi.org/10.1007/S13760-017-0770-2>
To cite this reference: <http://hdl.handle.net/10067/1416790151162165141>

Letter to the Editor concerning: Dizziness and neck pain: a correct diagnosis is required before consulting a physiotherapist, by Van Leeuwen and Van der Zaag-Loonen 2016

De Hertogh W., PhD.¹; Castien R., PhD^{2,3}; De Pauw J., MSc¹; Michiels S., PhD.^{1,4}

1 Department of Rehabilitation Sciences and Physiotherapy, Faculty of Medicine and Health Sciences, University of Antwerp, Antwerp, Belgium

2 Department of General Practice and Elderly Care Medicine, EMGO+ Institute for Health and Care Research, VU University Medical Center, Amsterdam, the Netherlands.

3 Healthcare center Haarlemmermeer, Hoofddorp, the Netherlands

4 Department of Otorhinolaryngology, Antwerp University Hospital, Edegem, Belgium

Correspondence to:

De Hertogh Willem

University of Antwerp

Faculty of Medicine and Health Sciences

Department of Rehabilitation Sciences and Physiotherapy, CDE, D.S.022,

Universiteitsplein 1, 2610 Wilrijk, Antwerp, Belgium.

willem.dehertogh@uantwerpen.be

Dear Editor-in-Chief,

After reading the abovementioned manuscript we want to react on several issues.

We have the impression that the authors start with a strong disbelief in the existence of dizziness originating from the cervical spine and a consequent disbelief in the effect of treatments that are directed to the cervical spine to alleviate the dizziness complaints.

The authors state that there is no scientific background for the concept of cervicogenic dizziness (CD).

One of the proposed mechanisms for CD is a sensorimotor conflict caused by impaired cervical afference. Proof of the presence of altered cervical afference in patients with dizziness is found in various experiments. These include tests with infiltrations in the upper cervical spine, the application of vibration on suboccipital muscles, with isometric contractions and induced muscle fatigue on cervical muscles. An overview can be found in the included references [1–4]. In these tests, the disturbance of cervical afference led to dizziness complaints. In clinical research, cervical sensorimotor control is measured via head repositioning tasks [5, 6]. Patients after a whiplash trauma display greater sensorimotor deficits than patients with neck pain of insidious onset. This

impairment is even larger in those patients that experience dizziness after their whiplash trauma. This indicates an underlying sensorimotor mechanism for their dizziness complaint [7, 8].

CD is indeed a controversial diagnosis and it is only to be considered after ruling out other causes of dizziness such as benign paroxysmal positional vertigo, hyperventilation, multisensory deficit. This is since long recognized in the physiotherapy field [9, 10]. CD can be suspected when a patient experiences dizziness (not vertigo) in combination with neck pain. This neck pain should be related in time (onset and duration) with the dizziness complaint. The dizziness is described as giddiness, unsteadiness or instability [4, 11]. The absence of a gold standard hampers the development of valid diagnostic criteria and tests. The lack of positive tests which might indicate another cause of dizziness is therefore of more diagnostic importance.

The authors quite firmly state that there are no scientific studies concerning the effects of physical therapy treatment, directed to the cervical spine, on dizziness.

However, Lystad et al. performed a systematic review including 15 studies. They concluded that manual therapy (i.e. spinal mobilisations) can be beneficial for patients with CD (level 2, moderate evidence) [12]. An additional RCT was performed which included 86 patients with CD. All were screened by a neurologist. Significant differences were found between the control group (placebo laser) and both manual therapy groups (4.2 treatments on average) regarding the dizziness intensity (immediately after treatment and after 12 weeks), frequency and Dizziness Handicap Inventory scores (up to 12 months follow-up) [13]. This means that the evidence on effectiveness for PT treatment for CD is accumulating.

The management of patients with dizziness is challenging, and often requires a multidisciplinary approach. Further multidisciplinary research is needed to improve rehabilitation for patients with dizziness. Meanwhile we like to conclude with a quote from Yacovino et al. "Even though it is presently impossible to measure the true extent of proprioceptive cervicogenic vertigo, manual and vestibular physical therapy seem to be the most reasonable therapeutic strategies" [14].

COMPLIANCE WITH ETHICAL STANDARDS

Conflict of Interest: All authors declare they have no conflict of interest.

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

REFERENCES

1. Kristjansson E, Treleaven J (2009) Sensorimotor function and dizziness in neck pain: implications for assessment and management. *J Orthop Sports Phys Ther* 39:364–377. doi: 10.2519/jospt.2009.2834
2. Treleaven J (2008) Sensorimotor disturbances in neck disorders affecting postural stability, head and eye movement control-Part 2: Case studies. *Man Ther* 13:266–275. doi: 10.1016/j.math.2007.11.002
3. Brandt T, Huppert D (2016) A new type of cervical vertigo: Head motion-induced spells in acute neck pain. *Neurology* 86:974–975. doi: 10.1212/WNL.0000000000002451
4. Malmström E-M, Karlberg M, Melander A, et al (2007) Cervicogenic dizziness - musculoskeletal findings before and after treatment and long-term outcome. *Disabil Rehabil* 29:1193–205. doi: 10.1080/09638280600948383

5. Kristjansson E, Dall'Alba P, Jull G (2003) A study of five cervicocephalic relocation tests in three different subject groups. *Clin Rehabil* 17:768–774. doi: 10.1191/0269215503cr676oa
6. Michiels S, De Hertogh W, Truijen S, et al (2013) The assessment of cervical sensory motor control: A systematic review focusing on measuring methods and their clinimetric characteristics. *Gait Posture*. doi: 10.1016/j.gaitpost.2012.10.007
7. Treleaven J, Jull G, Sterling M (2003) Dizziness and unsteadiness following whiplash injury: Characteristic features and relationship with cervical joint position error. *J Rehabil Med* 35:36–43. doi: 10.1080/16501970306109
8. Treleaven J, Jull G, LowChoy N (2006) The relationship of cervical joint position error to balance and eye movement disturbances in persistent whiplash. *Man Ther* 11:99–106. doi: 10.1016/j.math.2005.04.003
9. Wrisley DM, Sparto PJ, Whitney SL, Furman JM (2000) Cervicogenic dizziness: a review of diagnosis and treatment. *J Orthop Sports Phys Ther* 30:755–66. doi: 10.2519/jospt.2000.30.12.755
10. Huijbregts P, Vidal P (2004) Dizziness in orthopaedic physical therapy practice: Classification and pathophysiology. *J Man Manip Ther* 12:199–214. doi: 10.1179/106698104790825095
11. L'Heureux-Lebeau B, Godbout A, Berbiche D, Saliba I (2014) Evaluation of Paraclinical Tests in the Diagnosis of Cervicogenic Dizziness. *Otol Neurotol* 1858–1865. doi: 10.1097/MAO.0000000000000506
12. Lystad RP, Bell G, Bonnevie-Svendsen M, Carter C V (2011) Manual therapy with and without vestibular rehabilitation for cervicogenic dizziness: a systematic review. *Chiropr Man Therap* 19:21. doi: 10.1186/2045-709X-19-21
13. Reid SA, Callister R, Snodgrass SJ, et al (2015) Manual therapy for cervicogenic dizziness: Long-term outcomes of a randomised trial. *Man Ther* 20:148–156. doi: 10.1016/j.math.2014.08.003
14. Yacovino D, Hain T (2013) Clinical Characteristics of Cervicogenic-Related Dizziness and Vertigo. *Semin Neurol* 33:244–255. doi: 10.1055/s-0033-1354592