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Are white matter abnormalities a cause of "unexplained dizziness"?: A retrospective bi-centre study

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Introduction: Although cerebral small vessel disease is a significant contributor to the development of imbalance and falls in the elderly, whether it also contributes to the development of dizziness is not known.
Objective: This study investigated whether white matter (WM) disease is associated with unexplained dizziness.
Methods: A retrospective case analysis was conducted for 125 dizzy patients referred to two neuro-otology tertiary centres in London and Pisa. This study was approved by the local research ethics committee. Specific search criteria of "white matter disease" was applied to databases and patients were divided into 'explained' causes of dizziness (ie benign positional vertigo, orthostatic hypotension, cerebellar ataxias) and 'unexplained' causes of dizziness. White matter hyperintensities (WMH) in MRI (T2 weighted and FLAIR) were blindly rated according to the Fazekas scale.
Results: 61 patients (mean age = 72SD = 7.95 years) in the 'unexplained' group and 64 (mean age = 72.01SD = 8.28 years) in the 'explained' group were recruited. The overall frequency of lesions (Fazekas 1–3) differed between the groups ($p = 0.015$). The frequency of severe lesions (Fazekas 3) was significantly higher in the unexplained group (21%) than in the explained group (5%; $p = 0.005$).
Conclusion: Increased severity of WM abnormalities in cases of unexplained dizziness suggests that such abnormalities are contributory to the development of dizziness. WM lesions may induce dizziness either because patients perceive a degree of objective unsteadiness or by a cortical–subcortical disconnection syndrome.

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The neurophysiological research of Alexander von Humboldt

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Background: Medical research in the second half of the 18th c was characterised by a remarkable dynamism in theory construction and a turn towards hard science. Humboldt's (AvH) contribution to this is overshadowed by his other achievements. He was very interested in the medical research of his time and in contact with well known scientists. Inspired by Galvani's publication of "Animal Electricity" in 1791, AvH conducted numerous neurophysiologic experiments between 1792 and 1797 and published his results in "Experiments on stimulated muscular and nervous tissue" in 1797.
Material and methods: In nearly 4000 tests by means of electrical power he experimented on different animals and also on himself. Having perused his publication and analysed his ideas, methods and results, we discuss some examples and demonstrate his procedures and achievements.
Results: AvH conducted his experiments with utmost skill strictly following the procedure of Observation–Experiment–Formal application of mathematics–Conclusion, which was by no means a common approach in physiology at the time. He often drew precise and far-reaching conclusions of which an essential one was that there was no stable nerve excitability, but that it depended on numerous factors. However, perplexing observations are also discussed, such as the additive nature of his experiments and the absence of a systematic approach.
Conclusion: AvH's work must be seen in the context of contemporaneous schools of medical thought. Being influential in a number of areas, his major achievement was that he pioneered the exact scientific research methodology of the 19th century. His work reflects 19th c medicine in an enlightening way.

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Effects of aerobic training on cognition and brain glucose metabolism in subjects with MCI

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Background: Aerobic training (AT) is a promising intervention for mild cognitive impairment (MCI).

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