

CEREBRAL SMALL VESELL DISEASE AND VERTIGO

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Vertigo and dizziness are among the most common complaints in neurology, and in patients with vascular risk factors in particular. Vertigo of vascular origin is typically associated with migraine, transient ischemic attacks and ischemic stroke. Furthermore, patients with chronic cerebral small vessel disease (SVD) often complain of vertigo, gait instability and dizziness.

We aimed to investigate clinical and neuroradiological parameters associates with occurrence of vertigo as a subjective complaint in patients with symptomatic cerebral SVD, assessed in a prospective hospital-based study. During period of 5 years, data on 200 consecutive patients who were eligible for brain MRI examination and neuropsychological testing were analyzed. Patients were enrolled at least 6 months after acute subcortical stroke or TIA.

In this dataset, one third of patients (60 or 30%) with SVD

reported vertigo as one of the major neurological symptoms. Patients with vertigo did not differ in age ($p=0.237$), gender ($p=0.643$) or common vascular risk factors ($p>0.1$ for all) except for more frequent history of previous stroke in patients with vertigo (68.3% versus 53.6%, $p=0.075$) at the level of statistical trend. Although overall severity of cerebral lesions expressed through the total score on the Age-Related White Matter Changes score was not significantly different between patients with and without vertigo ($p=0.618$), regional analysis showed that SVD patients with vertigo more frequently had ischemic lesions in infratentorial areas ($p=0.008$) and basal ganglia ($p=0.08$).

In conclusion, results of our study imply that patients with cerebral SVD experience vertigo as the result of damage in central vestibular pathways, secondary to ischemic lesions in the brainstem and interruption of basal ganglia circuits.