

Alterations in functional network reorganization identified in Meniere disease

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Alterations in functional network reorganization may serve as potential biomarkers for clinical progression in Meniere disease (MD), according to a study published online Oct. 5 in *Scientific Reports*.

Jing Li, from Huazhong University of Science and Technology in Wuhan, China, and colleagues examined intranetwork and internetwork connectivity differences between 55 MD patients and 70 healthy controls (HC) in nine well-defined resting-state networks.

The researchers found that in 19 brain areas involved in the somatomotor, auditory, ventral attention, default mode, limbic, and deep gray matter networks, the degree of functional connectivity was lower in MD versus HC.

In addition, lower intranetwork connectivity was seen in the auditory, ventral attention, and limbic networks, and internetwork connectivity was lower between the somatomotor and limbic networks, between the auditory and somatomotor, deep gray matter, and ventral attention networks, and between the deep gray matter and default mode [network](#).

Eighty-one pairs of [brain areas](#) were identified with significant differences in functional connectivity between MD patients and HC at the edge level. There were positive correlations seen between the degree of the left amygdala functional connectivity with MD disease stage and between the ventral [attention](#) network intranetwork connectivity with healthy side vestibular ratio.

"These findings expand our understanding of the neural mechanisms underlying the disease and shed light on the functional implications of altered connectivity patterns," the authors write.

More information: Jing Li et al, Functional reorganization of intranetwork and internetwork connectivity in patients with Ménière's disease, *Scientific Reports* (2023). [DOI: 10.1038/s41598-023-44090-x](https://doi.org/10.1038/s41598-023-44090-x)

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