

Vertical nerve tortuosity refers to an abnormal twisting or curving of nerves in the vertical plane. This can occur in various parts of the body, including cranial nerves or spinal nerves, and might be visible through imaging studies like MRI or CT scans. The condition can be associated with various underlying issues, such as genetic disorders (e.g., connective tissue disorders), vascular anomalies, or can develop due to chronic pressure or mechanical stress.

The clinical significance of nerve tortuosity depends on the specific nerve involved and the degree of twisting. It may lead to symptoms like neuropathic pain, muscle weakness, or sensory disturbances if the tortuosity affects nerve function.

One hundred one patients diagnosed with IIH, and 119 control patients had complete files and were included. Patients with IIH were predominantly female (92.8% vs 59.7%; $P = <0.001$), younger (30.6 years vs 46.4 years; $P < 0.001$), and more obese (mean BMI = 35.2 vs 29.3; $P < 0.001$) than controls. Mean (SD) number of MRI findings was 2.21 (1.8) in IIH and 0.6 (1.2) in controls; ($P < 0.001$). [Vertical nerve tortuosity](#) (44.1%; $P < 0.001$), TVSS (37.8%; $P < 0.001$), sheath expansion (36.0%; $P < 0.001$), globe flattening (22.5%; $P < 0.001$), slit ventricles (18.9%; $P < 0.001$), optic disc protrusion (9.9%; $P = 0.007$), and complete empty sella (12.6%; $P < 0.042$) were observed more in patients with IIH than control patients. In the IIH group, mean (SD) LPOP was 33.6 (11.11) cmH₂O and weakly correlated with number of MRI findings ($\rho = 0.182$, $P = 0.057$). TVSS (sensitivity 37.84%; confidence interval [CI] 29.3%-47.2%, specificity 98.32%; CI 93.5%-99.6%) had the highest PPV (95.45%) and positive LR (22.51) for IIH diagnosis.

These results are consistent with IIH predominance in young, obese females. In patients with IIH, the number of MRI findings exceeded controls and positively correlated with LPOP. TVSS was most predictive of IIH ¹⁾.

¹⁾

Steinberg YN, Parnes GJ, Raval NK, Pellerano Sosa FM, Parsikia A, Mbekeani JN. Analysis of Neuroradiologic Findings in Idiopathic Intracranial Hypertension-A Population-Based Study. J Neuroophthalmol. 2024 Sep 5. doi: 10.1097/WNO.0000000000002248. Epub ahead of print. PMID: 39233320.

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