# Anterior contralateral interhemispheric transcallosal approach

Five formalin-fixed human cadaveric heads (10 sides) were examined microsurgically. CT and MRI scans obtained before dissection were uploaded and fused into the navigation system. The authors performed contralateral and ipsilateral transcallosal approaches to the lateral ventricle. Using the navigation system, they measured areas of exposure, surgical freedom, angles of attack, and angle of view to the surgical surface. Two clinical cases are described. RESULTS The exposed areas of the ipsilateral (mean [± SD] 313.8 ± 85.0 mm2) and contralateral (344 ± 87.73 mm2) interhemispheric approaches were not significantly different (p = 0.12). Surgical freedom and vertical angles of attack were significantly larger for the contralateral approach to the most midsuperior reachable point (p = 0.02 and p = 0.01, respectively) and to the posterosuperior (p = 0.02 and p = 0.04) and central (p = 0.04 and p = 0.02) regions of the lateral wall of the lateral ventricle. Surgical freedom and vertical angles of attack to central and anterior points on the floor of the lateral ventricle did not differ significantly with approach. The angle to the surface of the caudate head region was less steep for the contralateral (135.6° ± 15.6°) than for the ipsilateral (152.0° ± 13.6°) approach (p = 0.02). CONCLUSIONS The anterior contralateral interhemispheric transcallosal approach provided a more expansive exposure to the lower two-thirds of the lateral ventricle and striothalamocapsular region. In normal-sized ventricles, the foramen of Monro and the choroidal fissure were better visualized through the lateral ventricle ipsilateral to the craniotomy than through the contralateral approach [1].

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Belykh E, Yağmurlu K, Lei T, Safavi-Abbasi S, Oppenlander ME, Martirosyan NL, Byvaltsev VA, Spetzler RF, Nakaji P, Preul MC. Quantitative anatomical comparison of the ipsilateral and contralateral interhemispheric transcallosal approaches to the lateral ventricle. J Neurosurg. 2017 Aug 4:1-11. doi: 10.3171/2017.1.JNS161338. [Epub ahead of print] PubMed PMID: 28777024.