Transcortical approach (TC) to the insula.

In the insular Zone I (anterior-superior) of the Berger Sanai classification, the TC approach provided the best insular exposure compared with both transsylvian approach without (TS) and cutting bridging veins of the superficial middle cerebral vein (TSVC).

The surgical window obtained with the TC approach was also larger than that obtained with the TS. The TC approach provided 137% more surgical freedom than the TS approach. Only the TC corridor provided complete insular exposure.

In Zone II (posterior-superior), results depended on the degree of operculum resection. Without resection of the precentral gyrus in the operculum, insula exposure, surgical windows and surgical freedom were equivalent.

If the opercular cortex was resected, the insula exposure and surgical freedom obtained through the TC approach was greater to that of the other groups.

In Zone III (posterior-inferior), the TC approach provided better surgical exposure than the TS, yet similar to the TSVC. The TC approach provided the best insular exposure, surgical window, and surgical freedom if components of Heschl's gyrus were resected.

In Zone IV (anterior-inferior), the TC corridor provided better exposure than both the TS and the TSVC. The surgical window was equivalent. Surgical freedom provided by the TC was greater than the TS approach. This zone was completely exposed only with the TC approach. A dominant anterior venous drainage was found in 87% of the specimens. In this group, 50% of the specimens had good alternative venous drainage. The sylvian fissure corresponded to the superior segment of the squamosal suture in 14 of 16 specimens. The foramen of Monro was 1.9 cm anterior and 4.42 cm superior to the external acoustic meatus. The M2 branch over the central sulcus of the insula became the precentral M4 (rolandic) artery in all specimens.

Overall, the TC approach to the insula provided better insula exposure and surgical freedom compared with the TS and the TSVC. Cortical and subcortical mapping is critical during the TC approach to the posterior zones (II and III), as the facial motor and somatosensory functions (Zone II) and language areas (Zone III) may be involved. The evidence provided in this study may help the neurosurgeon when approaching insular gliomas to achieve a greater extent of tumor resection via an optimal exposure ¹⁾.

1)

Benet A, Hervey-Jumper SL, Sánchez JJ, Lawton MT, Berger MS. Surgical assessment of the insula. Part 1: surgical anatomy and morphometric analysis of the transsylvian and transcortical approaches to the insula. J Neurosurg. 2015 Sep 4:1-13. [Epub ahead of print] PubMed PMID: 26339854.

From: https://neurosurgerywiki.com/wiki/ - **Neurosurgery Wiki**

Permanent link: https://neurosurgerywiki.com/wiki/doku.php?id=transcortical_approach_to_the_insula

Last update: 2024/06/07 02:57



1/1