Transfrontal limiting sulcus approach

The transsylvian (TS) and transcortical (TC) corridors are the two main surgical approaches to the insula $^{(1) (2)}$.

The TC approach seems to be a natural choice when the tumor involves one or more opercula, and resection of the superficial part of the tumor provides simultaneous access to the insula, which is present in approximately 77% of insular gliomas³.

The current transsylvian or transopercular approaches make access difficult because of the limited exposure of insular tumors. Hence, maximal and safe removal of insular gliomas is challenging.

Sun et al. reported surgical techniques for insular gliomas resected through the transfrontal limiting sulcus approach. The authors evaluated the surgical resections of 69 insular gliomas performed through the new approach in their department. The extents of resection and postoperative neurological outcomes were analyzed to determine the value of this new approach.

Based on the Berger-Sanai classification, most insular gliomas were giant tumors (59.42%), followed by zone I + IV tumors (24.64%). The median (interquartile range) extent of resection of all patients was 100% (91%, 100%). The total resection rate for all gliomas was (55 of 69, 79.7%), and the total resection rate for low-grade gliomas was (28 of 40, 70%), which was significantly lower than that for high-grade gliomas (27 of 29, 93.1%) (P = .019). All patients had muscle strength greater than grade 4 3 months after surgery. Only 1 patient had a speech disorder 3 months after surgery. The median Karnofsky Performance Status score at the time of the 3-month follow-up was 90.

The transfrontal limiting sulcus approach can help to achieve maximal and safe removal of insular gliomas $^{4)}$.

1) 3)

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