

Microsurgery For Third Ventricle Tumors

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The treatment of the third ventricle tumors is a surgical challenge because of the complex anatomy of the structures surrounding this narrow cleft that include hypothalamus, infundibulum, optic pathways, limbic system, and nearby vasculature. A broad array of tumors of the central nervous system may arise within the third ventricular region. Multiple surgical approaches have been developed to treat them including transcortical or interhemispheric transcallosal approaches with the subchoroidal, interforaminal and transforaminal routes or the trans-lamina terminalis approach. Each approach has strengths and weaknesses, and the choice is often made according to the site and nature of the pathology, besides the surgeon's experience and comfort level. The goals of surgery must be carefully considered so as to minimize neurologic morbidity and mortality. Here we present a personal perspective of the microsurgical treatment of tumors that occur within the anterior portion of the third ventricle. Mainly three different strategies have been adopted in dealing with such tumors: The transcallosal, the transcortical and the translamina terminalis. The transcallosal approach provides a direct corridor to the lesions lying in the third ventricle. There are different advantages to this approach over alternative routes, among others a better exposure using multiple corridors to the third ventricle chamber. Rigid 0° and 30° endoscopes may help in looking for residual tumor and checking CSF pathway patency. The transcortical approach gives a better lateral to medial trajectory, wider access to lateral ventricle cavity and no risk of bridging venous impairment. The translamina terminalis approach allows a better control of the anterior portion of the III Ventricle especially for tumors involving the parasellar cisterns without any neural incision reducing the fornix manipulation.