Pediatric Intraventricular Tumor

Various tumors are found in the ventricles and tissues surrounding the ventricles in children, adolescents, and young-adult patients. They cause cerebrospinal fluid pathway obstruction, resulting in hydrocephalus and isolated ventricles.

Case series

55 patients were operated on for intraventricular tumors in the National Institute of Neurosurgery between 1991 and 2006. Data were analyzed regarding the histological type, presenting symptoms, type of surgical approach, the radicality of the resection, and postoperative complications. In addition to the own results, a brief presentation of the specific histological groups is given based on the available literature [1].

Case reports

Kagawa describes a neoplasm arising from the lateral and third ventricles. Intraventricular tumors are good candidates for neuroendoscopy. Firstly, minimally invasive and established procedures, neuroendoscopic biopsy with flexible endoscopy or rigid endoscopy, are performed. These endoscopic biopsies can be performed concurrently with other procedures, such as third ventriculostomy or septostomy, to improve cerebrospinal fluid circulation. Neuroendoscopic biopsy for the intraventricular tumor is associated with high diagnostic yield and relatively low incidence of morbidity and mortality, compared with open surgery. The endoscopic diagnostic procedure also can be applied in patients without ventricular dilatation, assisted by neuronavigation or echo-guided equipment. Secondly, neuroendoscopic cylinder surgery also makes it possible to remove intraventricular tumors with less damage. The two-hands technique with rigid endoscopy helps debulking and hemostasis during tumor removal. Further developments in endoscopic equipment and training systems aimed at enhancing cooperation between the operator and assistant should be expected in the future. Neuroendoscopic resection appears to be a safe and reliable treatment option for patients with intraventricular tumors [2].

1)
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2)
Kagawa N. [Neuroendoscopic Surgery for Pediatric Intraventricular Tumors]. No Shinkei Geka. 2022 Nov;50(6):1340-1352. Japanese. doi: 10.11477/mf.1436204700. PMID: 36426534.